

PHYSICIAN
PAYMENT REVIEW
COMMISSION

—
Annual Report
to Congress

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*PHYSICIAN PAYMENT
REVIEW COMMISSION*

*ANNUAL REPORT
TO CONGRESS*

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The Physician Payment Review Commission began its work on Medicare physician payment reform in 1986. Carrying out its mandate to advise the Congress on improving the method for paying physicians and controlling costs under the Medicare program, it developed a series of recommendations that became the basis for the Medicare Fee Schedule and related policies enacted by the Congress in 1989. Over the years, the Commission's work has expanded in response to new congressional mandates. Its work on Medicare is now integrated with projects on a broad range of issues including health system reform, Medicaid, graduate medical education, medical malpractice reform, and quality of care.

Each year, the Commission has submitted an annual report to the Congress, presenting analyses by its staff and outside experts and reflecting the ongoing exchange it has had with physicians and other health professionals, consumers, payers, and others affected by its work. This year, the Commissioners and staff once again are cognizant of how much their work benefitted from the contributions of many organizations and individuals. Staff of the Congress, the Health Care Financing Administration and other agencies of the Department of Health and Human Services, the Congressional Budget Office, the Congressional Research Service, the General Accounting Office, the Office of Technology Assessment, and the Prospective Payment Assessment Commission provided invaluable advice and information to the Commission.

The Commission has been fortunate to work with a group of people who have consistently understood and responded to its needs in key areas. Social and Scientific Systems, and especially Paul Menick, Mark Miller, and Arlene Turner, continued their excellent record of meeting the challenges posed by the Commission's diverse programming needs. Lynn Lewis again enhanced the quality of the report by her careful and timely editing.

This past year, the Commission sought comments from several hundred individuals and organizations on its work on graduate medical education and the development of resource-based methods for determining practice expense and malpractice expense payments under the Medicare Fee Schedule. Their responses were very helpful in formulating recommendations contained in the report.

The Advisory Panel on Access continued its role of assisting the Commission with its analysis plans and annual report on monitoring access for Medicare beneficiaries. Staff from state agencies on aging and the American Association of Retired Persons were also very helpful in providing information to the Commission on beneficiary complaints about diminished access after the fee schedule was implemented.

As it developed the questionnaire for a national survey of physicians on their early experiences under the Medicare Fee Schedule, the Commission consulted with a panel of physicians who shared very useful information and advice. Commission staff are also appreciative of the willingness of staff from state Medicaid programs, commercial insurance companies, and Blue Cross Blue Shield plans to participate in its survey on the adoption of the Medicare Fee Schedule by other payers.

Throughout the year, the Commission seeks comments on its work from many organizations concerned about the issues on its agenda. The information it receives through formal testimony, comments on draft reports, and interactions with these groups has repeatedly strengthened its work.

Once again, the Commission wishes to single out a number of people who played a key role in its work during the past year. Special thanks go to: Michael Ahl, Carol Ammering, David Baugh, Richard Beisel, Steven Berman, Maureen Booth, Joseph Brophy, Charles Buck, John Burns, Winifred Carson, Gary Clarke, Joel Cohen, Janet Corrigan, Richard Curtis, Frank Eppig, Mary Jane England, Lynn Etheredge, Bill Finerfrock, Karen Fennell, Celinda Franco, Beth Fuchs, J.D. Gammel, Melvin Gent, David Gibson, Marsha Gold, Jack Hadley, Edward Hunter, Kirsten Iversen, Judith Miller Jones, Stanley Jones, Mark Lafata, David Lansky, Eric Latimer, Jesse Levy, Stephen H. Long, William London, Patricia MacTaggart, Stephen Male, Carron Maxwell, Henry Miller, Pamela Mittlestadt, June Moody, Robert Moore, Curt Mueller, Margaret O’Kane, Ann Page, Mark Pauly, Edgar A. Pedon, Jeffrey Phelps, Trish Riley, Carolyn Rimes, Margo Rosenbach, Dallas Salisbury, Gerald Wedig, Frederick Wenzel, Connie Wessner, and Robert Wills.

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¹ Dr. Lee resigned from the Commission in February 1993 upon nomination to the position of Assistant Secretary for Health, Department of Health and Human Services. Richard Anderson is currently serving as Interim Chairman of the Commission.

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EXECUTIVE SUMMARY

In 1990, a year after Medicare physician payment reform was enacted, the Congress perceived that the Physician Payment Review Commission's expertise in Medicare policy issues could be applied to issues involving physicians that were broader than Medicare. It directed the Commission to develop recommendations on matters such as physician supply and graduate medical education, access to care by inner-city and rural populations, utilization review and the quality of care, and options to constrain the costs of care to employers.

In this report, the Commission's broadened assignments are very much in evidence. Four chapters are devoted to cost and quality aspects of health system reform. The first reviews the background of rising costs for health care, especially physicians' services, and its components. A second chapter examines the two major strategies to contain costs: rate setting and managed competition. It sets out the theory behind each, their possible shortcomings, and the potential for combining them. The success of either approach is dependent on implementation of a national data strategy, which is developed in a third chapter on health system reform. This part of the report concludes with a chapter on restructuring graduate medical education.

The second part of the report looks back at the first year's experience under the Medicare Fee Schedule. This work both fulfills the Commission's responsibilities to monitor the implementation of Medicare payment reform and offers insights for the design of health system reform. This part examines the impact of the fee schedule on beneficiaries and proceeds to analyze both the impact on physicians and how they have responded. It concludes with a discussion of how private payers and state Medicaid programs are incorporating elements of the Medicare Fee Schedule into their payment policies.

The third part covers potential refinements to the fee schedule. The Commission makes recommendations to extend the resource-based approach to payment for physician work to practice expense and malpractice expense. This part then reviews the Health Care Financing Administration's (HCFA) refinements to the fee schedule for 1993 and processes to be used for future refinement. It concludes with recommendations concerning payment for anesthesia services provided by teams that include both anesthesiologists and nurse anesthetists.

The report next reviews the experience to date with Medicare Volume Performance Standards (VPS) — the method to update the overall level of physicians' fees — and recommends a series of refinements. The final part of the report focuses on improving access for Medicaid beneficiaries. It recommends greater flexibility in the use of risk-based managed care for states that implement state-of-the-art quality assurance techniques. It explores using claims and survey data to monitor access to care on a regular basis and concludes with a review of state policies on coverage of services provided by nonphysician practitioners (NPPs).

HEALTH SYSTEM REFORM

With President Clinton making health system reform one of his highest priorities and the Congress having worked intensively in this area for some time, the next few months promise extensive discussion and debate. The Commission has been asked to assist the Congress in its consideration of those aspects of this issue that relate to the Commission's previous work and its expertise. These aspects include:

- strategies to contain costs and improve quality,
- developing a national data system, and
- reforming graduate medical education.

Costs and Quality in Health System Reform

As the percentage of gross domestic product (GDP) devoted to health care continues to rise, escalating health care expenditures constitute an increasingly difficult burden on society in general and on state and federal governments in particular. The Congressional Budget Office projects that the percentage of GDP devoted to health care will grow from its current level of 14 percent to 19 percent by the year 2000. By that date, spending on Medicare and Medicaid will constitute 23 percent of the federal budget (CBO 1992).

Analysis of historical data clearly indicates that both price and volume of services per capita play important roles in expenditure growth. If the percentage of GDP going to health care is to be stabilized, both constraint on prices and more economical patterns of medical practice must be achieved.

Discussion of cost containment has focused on two distinct strategies — rate setting and managed competition. Either of these can be combined with the alternative methods of financing health care — employer mandate, single payer, and so forth. Although proponents of each agree on the causes of the cost problem and the importance of public sponsorship of outcomes research and the development of practice guidelines, they differ on the mechanisms to control price and to induce physicians to practice more effectively and efficiently.

Under the rate-setting strategy, cost containment is driven by public decisions (possibly negotiated with providers) on payment levels for medical services. Limiting payment rates can reduce spending by reducing the prices for individual services and through the use of a unit of payment that is broader than an individual service, for example, payment per hospital admission. Decisions on annual adjustments in payment rates could be made on the basis of what is necessary to keep expenditures under a predetermined limit.

The potential of rate setting to contain costs over the long term would be enhanced if broadened to include steps both to create an infrastructure that supports improvements in medical practice and to limit the capacity of the medical care system to provide services. The former would begin with development of meaningful practice guidelines and encompass other activities in which physicians influence their peers. These activities range from education to sanctions. The latter would involve steps both to limit the size of the health care work force and reorient it toward generalist practice and to restrain the proliferation of facilities providing specialized services.

Under the managed-competition strategy, cost containment is addressed primarily through organized systems of care and measures to make health insurance markets more functional. Organized systems of care, which contract with consumers for comprehensive health care, are characterized by the integration of financing and delivery, the use of select panels of providers, and accountability on the basis of information on cost and quality. Some of today's health maintenance organizations (HMOs) are viewed as models of these plans. More functional markets would be created by more reliably rewarding health plans for good performance and penalizing them for poor performance.

Local boards would be created to manage the rules of the game in the marketplace. They would certify health plans, collect community-rated premiums from employers or consumers, and make payments that are adjusted for projected health care needs of enrollees. The benefit package would be standardized by the federal government. Consumer choice of health plan would be organized so that those choosing a more expensive plan would pay the difference out of pocket. Under such a market structure, health plans would face strong incentives to contain costs and improve quality.

While both rate setting and managed competition offer significant potential to do a better job in containing costs than do current policies, the potential shortfall between theory and practice for both of these strategies creates serious risk. Although proponents of each can cite examples of success, arguments can be made that the evidence is less compelling than it appears and that these successes may not generalize readily. For rate setting, the potential for shortfall comes in two areas: the ability of the political system to constrain payment rates substantially over the long term and the effectiveness of programs to make medical practice more effective. For managed competition, the possible shortfalls include whether a market can be structured in which health plans compete vigorously on price and quality of care and, if this is achieved, whether most consumers will choose among the lower-priced plans.

The risks that either strategy might achieve much less in cost containment and quality enhancement than is envisioned in the respective theories have led the Commission to explore ways in which elements of each can be combined. Combination of managed competition with rate setting could be seen as a phased application of cost-containment technology as it is developed. Knowledge of how to set rates is available now (drawing extensively on the Medicare experience), whereas mechanisms to make medical practice

more effective and efficient through organized systems of care are at an earlier stage of development. While such combinations often lack elegance from a philosophical perspective, they show substantial promise from a practical one.

Developing a National Data System

Data requirements undergird many of the elements of both the rate-setting and managed-competition strategies for containing costs under health system reform. Under any approach that incorporates expenditure limits, the federal government must be able to track total spending in order to monitor compliance with limits. Under the rate-setting strategy, the data requirements for establishing initial rates of payment are far less stringent than those for monitoring changes in spending to revise the rates in the future. Under the managed-competition strategy, data must be available that provide the local boards adequate information on costs and quality, both to determine which plans should be certified and to allow consumers to make informed choices.

Some current data systems have a substantial potential for meeting the needs of reform. The Medicare claims system, for example, supports most needed summaries of utilization and expenditures for physicians' and hospital services as well as sophisticated analyses of access to care for vulnerable populations. Surveys, such as the Medicare Current Beneficiary Survey (CBS), supplement the claims system. On the other hand, data systems for the federal government's plan for its employees and many private-sector insurance plans would need considerable improvement to support even basic analytical needs.

On the quality side, a wide variety of performance measures are currently in use, at least in the more innovative managed-care plans around the country. Those derived from administrative data and from enrollee surveys might be adequate to meet the basic needs of local boards in the short term. In addition, the recent research literature on risk measurement offers some encouragement that adjusters could be based on demographic data and self-reported health status.

For the longer term, the Commission's strategy for creating a national data system draws on the Medicare claims system as a model and builds on the foundation created by existing third-party payer data systems. The strategy envisions using regional boards or carriers to collect raw claims data from individual payers. The carriers would verify the data and aggregate information to be used by the local community and the federal government for various monitoring, quality improvement, and regulatory functions. It is important, however, that the design of a data system not be limited by the content of claims data and that other data sources play a critical role. The Commission further recommends federal support for development of improved quality measures and better methods of risk adjustment, in each case with special attention to identifying proxies that can be used in the short term.

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Reforming Graduate Medical Education

Reform of the health system will require substantial changes in the health care work force. This includes not only the number and specialty mix of physicians and nonphysician practitioners, but the training they receive — both initial preparation for health care careers and retraining to adjust to new demands. The Commission has begun its work on health professionals by focusing on the aspect of training in which the federal government plays the most significant role — graduate medical education of physicians.

Over the past year, the Commission has reviewed policy options designed to limit growth in the number of physicians, shift the balance between generalists and subspecialists, and facilitate training in ambulatory settings. It has concluded that substantial changes in the financing of graduate medical education are required and should be considered an integral element of health system reform. Policies that create weak incentives to modify residency training will not succeed in achieving the magnitude of change in the supply and distribution of physicians that is required to meet the population's health needs efficiently. Bold actions that bring together the educators making the decisions about the creation of residencies with the payers financing the training are essential.

The debate on health system reform provides an important opportunity that was missing in the past to coordinate policies affecting physician supply and training with those affecting payment for physicians' services, access to care, and cost containment. In fact, the success of other reforms to rationalize the delivery of medical care and slow the growth in national health expenditures may be substantially undermined unless accompanied by constraining the supply of physicians and increasing the proportion trained as generalists.

The Commission recommends a new system for financing graduate medical education that would limit future growth in resident supply, rationalize the allocation of residency positions, and make entities sponsoring training programs more accountable to the nation's health care needs. This system includes six components:

- all payers contributing a percentage of their payments for medical care to a national pool to support the direct costs of graduate medical education;
- a congressionally set limit on the total number of residencies to be funded from the pool;
- a federal entity that determines the distribution of these slots by specialty, using both objective data and input from interested parties;

- decisions on which residency slots in a specialty will be funded to be made on the basis of educational quality by organizations that accredit graduate training;
- payments for the direct costs of graduate medical education to approved residencies made to either a teaching hospital, a medical school, a consortium consisting of a medical school and several teaching hospitals, or to the training program itself, with the payment per resident a prospectively set amount;
- transitional financial relief to teaching hospitals that lose residents but still must meet essential service needs, especially those hospitals with a disproportionate share of indigent patients.

MEDICARE FEE SCHEDULE: FIRST YEAR OF IMPLEMENTATION

The first year of implementation of the Medicare Fee Schedule has been completed. A large portion of the change in the structure of physician payment occurred in that first year, although it was only the beginning of a five-year transition. The Commission analyzed three aspects of the experience of implementing physician payment reform:

- its impact on beneficiaries,
- its impact on physicians and their response to it, and
- use of the Medicare relative value scale (RVS) by private payers and Medicaid programs.

Overall, the implementation of the fee schedule has gone quite well. The major fears that were raised by some — on the one hand, that many physicians would no longer treat Medicare beneficiaries and, on the other hand, that costs would increase sharply due to physicians' increasing volume of services — have been shown to be clearly unfounded. Medicare's relative value scale has also been well-accepted by private insurers and Medicaid programs.

Beneficiaries and the Medicare Fee Schedule

The need for careful and timely monitoring of Medicare beneficiaries' access to care was explicitly recognized in the legislation that established Medicare physician payment reform. It directs the Secretary of Health and Human Services to report to the Congress annually on changes in beneficiaries' use of services and access to care. The Commission is to comment on the Secretary's reports and to offer its own recommendations to the Congress.

The Commission began its work on monitoring access to care by studying access prior to the implementation of the fee schedule (PPRC 1991b; 1992b). Overall, access has been quite good. The first round of the CBS shows that 96 percent of beneficiaries reported no difficulty obtaining health care in 1991 and 95 percent reported being satisfied with the care they received.

Access was not good for all Medicare beneficiaries, however. Analysis of historical claims data showed evidence that certain disadvantaged populations — black beneficiaries, beneficiaries in urban poverty areas and in urban Health Professional Shortage Areas — had inadequate access to care. Results from the CBS confirm that poverty and minority status are associated with less satisfactory access to care.

As the fee schedule was put into place, there were indications of some temporary dislocations in certain areas. Beneficiaries' complaints about problems with access to physicians increased somewhat in Florida, Texas, and northeast rural California. By January 1993, however, the flow of beneficiaries' complaints had virtually ceased.

A very encouraging result concerning access came from a survey of physicians sponsored by the Commission.¹ Of those physicians accepting new patients in their practices, 94 percent were accepting new Medicare patients.

Claims data also confirm a lack of access problems associated with the transition to the fee schedule. Data on services provided during the first six months of 1992 show that the total volume of services per Medicare enrollee rose more than 5 percent compared with the corresponding period of 1991. While this rate of growth is somewhat below recent trends, the slowing does not seem to be a consequence of fee reductions. Services with significant fee declines typically showed moderate to large increases in volume, and volume tended to grow fastest in those geographic areas where fees were most sharply reduced.

While these early indications are reassuring, access will remain an important issue. Payment reform may have impacts that are not evident initially. The Commission will continue to monitor beneficiaries' access to care as payment reform progresses, with special emphasis on the experience of disadvantaged populations. A comprehensive report on beneficiary access is scheduled for May 15, 1993.

The Commission also examined the impact on beneficiaries of another element of payment reform — limits on the amounts physicians may charge above Medicare's approved amount. Limits on charges for unassigned claims were first implemented in 1991, but were tightened in 1992. The limit for 1992 was the lower of a physician's limiting charge for 1991 or 120 percent of the allowed charge for nonparticipating physicians. Data from the first six months

¹ The survey was fielded from July through September 1992 by Louis Harris and Associates.

of 1992 show a 34 percent reduction in the total amount of balance billing. Participating physicians (those agreeing to accept assignment on all claims for the year) accounted for 76 percent of aggregate Medicare payments to physicians, and 87 percent of payments were for assigned claims. These data reflect a continuation of trends toward higher rates of participation and acceptance of assignment.

Enforcement of charge limits continues to be a problem, though some progress is apparent. HCFA's new administrative procedures incorporate many of the Commission's 1992 recommendations. Medicare carriers now identify all claims in which the charge exceeds the limit and notify both the physician and the beneficiary of the possible overcharge. These efforts have documented significant numbers of violations. During the last five months of 1992, when these activities were operational, 180,000 letters were sent to physicians notifying them of charge limit violations.

Legislation is still required, however. The Medicare statute should be amended to clarify that beneficiaries are not liable for amounts in excess of the limiting charge and that physicians must refund overcharges. The 102nd Congress voted these changes as part of H.R. 11, but the legislation was vetoed by the President.

Physicians and the Medicare Fee Schedule

Using both the claims data and the survey of physicians described above, the Commission analyzed the impacts of the fee schedule on physicians and their responses to it. One focus of the analysis concerned whether the goal of budget neutrality — that expenditures under the new system would match what they would have been under the previous one — had been met.

Setting payment rates at a budget-neutral level required that HCFA make a number of assumptions. One category of assumptions — referred to as “baseline assumptions” — included how physicians would bill for evaluation and management (EM) services under the new codes, the proportion of bills that would be submitted for less than the fee schedule amount, and how to “age” a 1989 database to estimate payment rates and service use in 1991. The other category — referred to as the “baseline adjustment” — concerned how physicians would change the volume of services billed in response to changes in payment rates.

Claims from the first six months of 1992 show an increase of between 3 percent and 4 percent in payments for services, far below projections. Part of this discrepancy might reflect inherent volatility of payments over time. But a significant portion is probably due to inaccuracy of both the baseline assumptions and the baseline adjustment HCFA used to set the conversion factor.

Concerning the baseline assumption, the average payment rate appears to be 2 percentage points too low. To comply with the statute, HCFA calculated that it should reduce the average

rate by 1 percent. But the average rate appears to have declined by 3 percent. This discrepancy is found both by comparing actual data for 1992 with actual data for 1991 and by simulating 1992 using actual data from 1991 and the fee schedule for 1992. Neither the assumption about use of the new EM codes nor that concerning billing for amounts less than the fee schedule appears to explain the discrepancy, however. Either aging the database or some other assumptions are the likely source.

Concerning the baseline adjustment, statistical analysis of price and volume changes by the Commission suggests that the reduction in the conversion factor for 1992 should have been approximately 1 percent, rather than the 3 percent implemented by HCFA. The agency assumed that those physicians facing declines in payment rates would offset 50 percent of the decline through increased billing, but that those facing increases in payment rates would not change their behavior. The Commission's analysis suggests that HCFA's assumption concerning responses to decreases in payment rates was not far off, though the response was a combination of no significant reaction to changes in payment rates for surgery and a very large one for nonsurgical procedures. The Commission did find a moderate response to price changes for EM services, so that fee increases were offset by a decrease in volume of services billed. The combination of a reaction to price increases and that to price decreases meant that the net impact of implementation of the fee schedule was much smaller than HCFA anticipated.

The Commission is well aware that the initial response to resource-based payment of more nonsurgical procedures and fewer EM services is the opposite of the intended pattern of change. It views these as short-term responses and continues to believe that with more time, changes in the payment structure will lead physicians to reorient their practices toward EM services and make more attractive those specialties for which EM services are relatively more important.

The transition to the fee schedule has begun shifting payments toward EM services and those specialties that provide them. Payment rates to family physicians increased by 10 percent in 1992; for surgical specialties, they decreased by 8 percent. But physicians fared better than changes in payment rates might suggest, since the volume of services per physician continued to grow. For example, volume for physicians in surgical specialties increased by 6 percent, so that payments per physician decreased only 2 percent. When the impact of reductions in balance billing is added, revenues for services to Medicare patients fell 4 percent.

After more than six months with the new fee schedule, physicians express both poor understanding of the payment reforms and considerable discontent with the Medicare program. A Commission survey found that between one-third and one-half of physicians did not adequately comprehend the newly revised visit codes, Medicare limits on balance billing, or Medicare's revised policy for surgical global services. When asked to list the most important problems with Medicare, physicians stressed low fee levels, inadequate or complex coding of services, and excessive paperwork and other administrative burdens. While

analysis of the claims data indicated that physicians did indeed receive less than budget-neutral payments, survey responses indicated that physicians' perceptions were much more pessimistic. Respondents consistently indicated smaller increases or larger declines in payment rates for EM services than analyses of claims indicate for physicians in the same specialty and locality as the respondent.

Use of the Medicare Fee Schedule by Other Payers

During 1992, an increasing number of private payers and state Medicaid programs incorporated aspects of the Medicare Fee Schedule into their payment schemes for physicians' services. To the extent that these activities progress, the goals of Medicare's reform will be achieved more rapidly.

Among private payers, there is a wide range in the extent to which they have modified their payment structures on the basis of the Medicare relative value scale. Some payers have completely revised their payment methods, while others have made no changes. In general, there has been more activity among Blue Cross and Blue Shield (BCBS) plans, which have long contracted with physicians in their communities through participating physician agreements, than among commercial insurers. BCBS plans have been motivated by a desire to reduce the extent that submitted charges influence their structure of payment. But the extent to which they adopt Medicare's relative value scale is limited by their ability to get adequate numbers of physicians in all specialties to agree to participate. Commercial insurers have done less because their traditional indemnity plans do not include contracts with physicians. Thus, any change in the structure of payment could lead to changes in the pattern of balance billing of patients. But preferred provider organizations (PPOs) and independent practice associations (IPAs), which contract with physicians, have been active in incorporating the Medicare relative value scale.

Private insurers that have adopted the Medicare relative value scale have followed one of two basic strategies. Some have replaced reasonable-charge methodologies with a published fee schedule that includes the Medicare RVS and an insurer-specified conversion factor. This is the approach used most by PPOs and IPAs. A more common approach involves retaining a reasonable-charge methodology but replacing the customary charge screen with a screen based on the Medicare RVS and an insurer-specified conversion factor.

Nine state Medicaid programs, accounting for more than one-quarter of national Medicaid spending for physicians' services, have either already implemented or will soon implement a fee schedule based on the Medicare RVS. Eight additional states are actively exploring this. Motivations for these changes include enhanced equity among provider categories, improved patient access to primary care services, and administrative simplification. For those deciding not to change their payment system, concern about loss of access from paying still less than private payers for procedural services was frequently cited.

Most of the states adopting the RVS chose a conversion factor that was budget neutral for their program. On average, the conversion factor was \$27, compared with Medicare's \$31 in 1992. These states had payment rates that were closer to Medicare's than the average Medicaid program. The Commission continues to stress the goal of increasing payment rates under Medicaid to Medicare levels.

Some of the programs implementing these changes have incorporated revisions to the Medicare RVS, mostly in the areas of obstetric and pediatric services. Many programs found Medicare payment rates for obstetric services to be lower than their existing rates (in many cases, recently increased to improve access) and decided not to reduce them to conform to Medicare relative values.² With access to obstetric and pediatric services a high priority, some states have simply used a higher conversion factor for these services. A few programs have revised relative values for pediatric services, which may involve more or less work because the patient is a young child.

REFINING MEDICARE PHYSICIAN PAYMENT POLICY

This part of the report discusses a number of areas in which significant refinement in Medicare physician payment policies are needed. It includes:

- the Commission's recommendations on practice expense and malpractice expense relative values,
- analysis of changes in the fee schedule for 1993,
- processes to ensure that relative work values are accurate in the future, and
- payment for services delivered by an anesthesia care team.

Payment for Practice Expense and Malpractice Expense

The relative value scale in Medicare's resource-based fee schedule has three distinct components — physician work, practice expense, and malpractice expense. The physician work component is based on measurement of the time and effort required to perform the service. But the other two components are calculated from historical charge levels through a formula specified in the Omnibus Budget Reconciliation Act of 1989 (OBRA89).

² As part of its process to refine relative values, HCFA substantially increased the relative values for obstetrical services for 1993. Many Medicaid programs consider even the new relative values to be too low.

The Commission has long questioned the appropriateness of these charge-based components of the relative value scale. Since 1989, when the Commission suggested the OBRA89 approach as an interim measure, it has been working to develop a resource-based approach to practice expense and malpractice expense. It has reported its progress in each of its annual reports.

Over the past year, the Commission has completed its pilot studies on methods for each component. It published comprehensive reports on each and sought comments from a wide range of organizations. In addition, it convened a practice expense conference in which all of the active researchers on the subject participated. The Commission is now ready to proceed with recommendations to the Congress.

The Congress should revise both the practice expense component and the malpractice expense component of the Medicare Fee Schedule so that they will be resource based. Practice expense relative values should be based on data about the direct costs incurred in delivering each service and an incentive-neutral formula to allocate indirect costs. Malpractice expense relative values should be based on data about the relative increase in malpractice risk incurred in delivering each service.

A transition to new relative values should be introduced, beginning in 1997. This date will allow for completion of the current fee schedule transition process and for further development and refinement of the resource-based approach to practice expense and the risk-of-service approach to malpractice expense. For practice expense, HCFA should be directed to collect direct cost data and to develop solutions to outstanding issues in the development of the relative values. For malpractice expense, HCFA should be directed to collect data on risk groups and relative liability premiums across insurers that can be used to develop new malpractice expense relative values.

Refinement of the Medicare Fee Schedule for 1993

Three policies contributed to changes in payment rates for 1993:

- conversion factor updates of 3.1 percent for surgical services and 0.8 percent for nonsurgical services,
- continued transition to the final fee schedule, and
- revisions to relative work values.

Overall, the average payment per service increased only 0.5 percent. Although the average update was 1.4 percent, the transition to the fee schedule led to a 0.9 percent reduction as a result of the baseline adjustment to the conversion factor. Revisions in relative values had no net effect on payment rates.

Changes in payment rates differed by type of service and by specialty, but the magnitude of differences was small. Evaluation and management services received a 3.4 percent increase, while diagnostic procedures and surgical global services had decreases of 4.4 percent and 0.8 percent, respectively. Payment per service to family physicians and nonprocedurally oriented internists increased 3.7 percent and 3.1 percent, respectively. Payment rates to cardiologists and ophthalmologists decreased by 3.7 percent and 1.0 percent, respectively. Payment rates increased slightly for surgical specialists as a group.

The small magnitudes of the differences between types of services and specialties reflect three factors. First, a large portion of the transition had already taken effect by 1992. Second, the differential updates for surgical and nonsurgical services offset some of the redistribution from resource-based payment. Third, although refinements in relative work values had large effects on some individual service codes, their impact on broad categories of services and specialties was limited.

An important implication of these simulations is that changes in relative payments throughout the remainder of the transition will be modest. For example, with the 1993 transition effect for EM services totaling 2.4 percentage points (3.2 percentage points minus the 0.8 percent baseline adjustment), this suggests a transition effect of only 7.2 percent for the 1994-1996 period. Pending legislation (H.R. 21) that would restore separate payment for electrocardiogram interpretation and eliminate the reduction in payment rates for new physicians would decrease payment rates for EM services by a significant amount.

HCFA conducted an extensive process to refine relative work values during 1992. Focusing on the 791 services on which it received comments, HCFA increased values for about 360, decreased values for 35, and left the rest unchanged. A structured small group process was used, in which panels of carrier medical directors and clinicians nominated by specialty societies reviewed the relative values. HCFA staff made the final decisions.

Many of the problems identified by the Commission were addressed, but some remain (PPRC 1992a). With the formal refinement process now over, successful resolution of these problems will depend on a future process for revision that has not yet been spelled out by HCFA.

For EM services, the relative work values for critical care and nursing facility visits were increased substantially. But the work intensities of virtually all classes of visits and consultations were made even more uniform than in 1992, a pattern that does not reflect the meaningful differences that should exist. The intensities of different levels of service within a class of visits or consultations also are identical, although the results of research and deliberations of panels of physicians convened by the Commission indicate that work intensity should decline somewhat as the time and content of a visit increase.

Refinements in work values for procedures appear to have mitigated some of the problems identified by specialty societies. Systematic problems may remain, however, especially since restricting refinement activities to services for which formal comments were received probably meant that only potentially undervalued services were examined.

Patient factors such as severity of illness and special needs can affect the work required to perform a service. A Medicare adjuster should be developed and applied to services in which the typical patient is not a Medicare patient and substantial differences in work exist. Such an adjustment to relative values for Medicare payment might increase payments for some surgical global services for which lengths of stay for Medicare patients tend to be longer, thus involving more hospital visits. A pediatric adjuster should be developed for services where the physiological or behavioral differences between adults and children affect work. For visits and consultations, a special-needs modifier should be developed for patients who have communication barriers or disabling cognitive or physical impairments that are likely to require more time during a physician visit.

Although some have urged that a severity-of-illness modifier be developed, the technical problems in constructing a modifier appropriate for physician payment are formidable. The Commission believes that much of what a severity modifier has been proposed for could be accomplished through changes in payment and coding policies.

Some refinements to the fee schedule will require legislation. As part of H.R. 11, the 102nd Congress voted to restore separate payment for interpretation of electrocardiograms and to eliminate the reductions in payment for new physicians but the legislation was vetoed by the President. The Commission continues to support these changes.

Maintaining Accurate Relative Work Values

The goals of the Medicare Fee Schedule cannot be achieved unless the scale of relative work is credible to most physicians. Because there is no “gold standard” for judging whether work values are “right,” the processes by which they are established and reviewed are central to their credibility and acceptance. HCFA should continue to develop small group processes to update the fee schedule for new codes and to conduct periodic review of the entire fee schedule. The processes should be developed with public input, with clear guidelines and decision rules specified in advance. They should include mechanisms to promote consistent decisionmaking, fair methods and representation of involved parties, means to identify overvalued as well as undervalued procedures, ways to ensure public accountability, and feedback to the Current Procedural Terminology (CPT) Editorial Panel when codes need revision for accurate resource-based payment.

Ratings of physician work are inherently subjective; for the scale of relative work to be equitable, they must be made as consistently as possible. HCFA should continue careful development of a reference set of services, which should be used by all participants in the processes for creating

relative values for new codes and for periodic review of values for existing codes. Comparisons among services can be facilitated with objective data on the services being rated, such as the average time it takes to perform the service. Fair methods and representation are needed so that there is a level playing field in terms of evidence, presentations, discussions, and voting. All users of the relative value scale, including private insurers and state Medicaid programs, should have input into these processes. To maintain accountability, public participation in the formulation of processes, guidelines, and decision rules is essential.

In designing the process of periodic review, HCFA needs to develop methods to address systematic changes in relative work between categories of services and systematic effects of service-specific revisions. For example, the productivity of physicians in performing procedures tends to increase more rapidly than that in providing EM services. This suggests the need for periodic increases in relative work values for EM services and decreases for procedures. This could be supported either by periodic attempts to measure relative work among broad categories of services or by research on differential trends in productivity.

When refinements in work values require an adjustment for budget neutrality, it should be implemented by changing relative work values rather than by changing total relative values or the conversion factor. Otherwise, the refinement process will distort the relationships between work, practice expense, and malpractice expense. To the extent that periodic review does not give roughly equal attention to services that are potentially undervalued or overvalued, EM services could be inappropriately devalued over time. With EM services so heterogeneous, it is difficult to develop evidence that they are undervalued or overvalued. So if the process reviews only potentially undervalued procedures and does not assess potentially overvalued procedures, the resulting budget-neutrality adjustments will decrease payment for EM services. The Congress should provide HCFA with explicit legislative authority to insulate the relative values of EM services from the effect of budget-neutrality adjustments when necessary to maintain the accuracy of relative values for these services.

The relative value scale should be revised only to increase its accuracy in measurement of relative work. Other policy goals that can be achieved through changes in payment rates, for example increasing the number of primary care physicians in shortage areas, should be pursued through parameters other than relative values. These include adjusting the conversion factor for a category of services (as in the Medicare Volume Performance Standards) or providing a bonus for physicians that practice in a targeted area. Limiting the relative value scale to measurement of work will enhance its credibility among physicians and facilitate its use by non-Medicare payers.

Payment for the Anesthesia Care Team

The Commission previously pointed out that the current policy, which results in an anesthesia care team consisting of an anesthesiologist and one or more certified registered nurse anesthetists (CRNAs) being paid more than a solo anesthesiologist for the same service

should be revised (PPRC 1991a). For example, in 1992, anesthesia care teams consisting of an anesthesiologist and two CRNAs received between 30 percent and 35 percent more for each 90-minute hernia operation than a solo anesthesiologist in most localities. The Commission could not find any clinical justification for this difference.

This year, the Commission developed the details of how to change payment so that Medicare would not pay more for services delivered by an anesthesia care team. With organizations representing the interested parties all opposed to Medicare making a single payment to either the anesthesiologist, the CRNA, or the hospital employing the CRNA, the Commission considered alternative ways to split the payment among team members. It convened a technical advisory panel of anesthesiologists and CRNAs to discuss the policy options and their implications for access, quality of care, and employment arrangements. It also simulated payments per hour under various options.

The total payment for a procedure should be pegged to what a solo anesthesiologist would receive under the fee schedule and split evenly between the anesthesiologist and the CRNA. This 50/50 split would preserve use of the care team and cause the least disruption to current employment patterns. Anesthesiologists would receive the same hourly amount when practicing in teams with two CRNAs as they do when practicing solo and earn somewhat more when practicing in teams with three or four CRNAs. When compared with recent CRNA payment rates, the 50/50 split appears to pay hospitals enough to continue to employ CRNAs.

The Commission recommends a transition to allow providers to adjust to reduced payment levels and the federal government to monitor any changes in access and quality of care. During the first year of a four-year transition, Medicare payments for services provided by anesthesia care teams should be capped at 120 percent of the payment made to the solo anesthesiologist. For each of the following four years, the cap should be reduced by 5 percentage points. At the end of the transition period, payments should be capped at 100 percent of the payment made to the solo practitioner.

MEDICARE VOLUME PERFORMANCE STANDARDS

Medicare Volume Performance Standards were established by OBRA89 as a mechanism to update physician payment rates. Each year, a target rate of growth in expenditures for physicians' services for the following year is established. Future payment rate updates are based in part on the comparison of actual expenditure increases with the target. In this report, the Commission assesses the experience to date with the VPS mechanism and suggests a number of refinements.

Volume Performance Standards: Early Experience

In the next few months, both the Secretary of Health and Human Services and the Commission will be making their fourth series of annual recommendations to the

Congress concerning performance standards and their third series of recommendations on the payment rate update. This is an appropriate time to reflect on the experience to date.

The VPS serves as a budgeting tool for the Congress. It sets a rate of expenditure growth and then adjusts payment rates in the future to offset any discrepancies between budgeted and realized expenditures.

The VPS also provides incentives for physicians to take steps through various medical professional organizations to control the rate of growth in the volume of services. The success of these collective efforts are reflected in payment rate updates.

Although the Congress intended to make annual decisions on both the performance standard and the payment rate update and did so in 1990, it did not act in 1991 or 1992, allowing a default formula specified in OBRA89 to determine these parameters. Thus, the VPS has functioned in more of a formulaic manner than was envisioned.

From the Commission's perspective, this was not a problem in 1991, since the default formula for 1992 yielded an overall performance standard very close to and a payment rate update identical to its recommendation. In 1992, however, the default formula for 1993 yielded an overall performance standard substantially higher than that recommended by the Commission and a higher payment rate update for surgical services than for nonsurgical services. The Commission has recommended that the differential update for 1993 be a one-time bonus/penalty and that it not affect the base for payment rates in 1994 and later years.

With the default formulas having become so important, they should be revisited. The Commission will be considering ways in which affordability of Medicare to the taxpayers and beneficiaries can be incorporated into the formula for setting the performance standard.

Several issues have surfaced regarding the implementation of the VPS. As noted above, a primary concern is the policy of different performance standards and updates for surgical and nonsurgical services. Multiple standards inevitably introduce distortions in relative payment rates. In addition, it is difficult to accurately set appropriate performance standards for categories of services. This requires knowledge of how changes in medical practice are likely to cause surgical and nonsurgical services to grow and good estimates of volume responses to changes in fee levels associated with implementation of the Medicare Fee Schedule. The Commission has recommended that a single performance standard and update, applying to all services, be used in the future.

Additionally, some question whether the physician community has been able to respond effectively to VPS incentives to control inappropriate services. Significant activities sponsored by a range of organizations in the area of practice guideline development and analysis of variations in practice are under way, but one cannot infer the role the VPS has

played in stimulating these activities. Some have suggested that a state-level VPS policy would facilitate a more extensive response by physician organizations, while others contemplate steps that the federal government could take to help medical organizations play a more active role.

The effectiveness of the VPS is difficult to measure because of both the limited time during which the policy has been in effect and an inability to disentangle its impact from that of other factors affecting expenditures for physicians' services. For example, the rate of growth in Medicare physician expenditures has been slowing in recent years, but policies such as payment rate reductions brought about by OBRA89 and OBRA90 may account for a large part of the decline.

Refining the Volume Performance Standards

The Commission considered three possible areas of refinement of the policy — state-level performance standards and updates, a separate update for EM services, and shortening the time between the performance year and the update.

Moving to a state-based VPS system might be more effective in tapping the potential for physician organizations to control costs. The infrastructure and incentives to influence physician practice might be stronger at the state level. Physicians have suggested that such activities might be more feasible where medical practice is more homogeneous and the physicians are better acquainted with each other.

Nevertheless, the Commission believes that moving to a full state-level system would be premature because there has not been enough experience with the national system to determine if the additional complexity and cost would be warranted. Instead, HCFA should be granted specific authority to undertake demonstrations of a state-level VPS system. Demonstrations would provide the opportunity to better assess both the overall feasibility of a state-level system and the extent of physician activity to control volume growth that it would stimulate.

The Commission continues to favor a single update that applies to all services. If the current policy of separate updates for surgical and nonsurgical services is maintained, however, then a third performance standard and update, covering EM services, should be established. The current category of nonsurgical services is composed of EM services, which are thought to be relatively underprovided, and nonsurgical procedures, which are thought to be relatively overprovided. The combination may lead to a transfer of updates from EM services to procedures, which over time may offset some of the changes in the structure of payment rates that motivated physician payment reform.

Currently, 15 months elapse between the end of the performance period and the effective date of the updates that are based on expenditure growth during the performance period. Shortening this lag could allow the Congress to achieve its budgetary goals more rapidly and

physicians to receive faster feedback on how their efforts to control volume growth have affected payment rate updates. The Commission reviewed a number of options to reduce this lag but found significant shortcomings with each. Substantial savings in time would require increased use of default formulas, which would involve a major departure from a key compromise in enacting the VPS.

IMPROVING ACCESS FOR MEDICAID BENEFICIARIES

Although Medicaid beneficiaries have broad insurance coverage, their access to care is often inadequate. In many states, physicians' fee levels are far below Medicare levels, leading many physicians either to not participate in the program or to limit the number of beneficiaries they serve. Moreover, many beneficiaries live in areas with few medical resources. Previous Commission reports have documented Medicaid fee levels and discussed options to improve access, such as raising fees, increasing support for community and migrant health centers and school health programs, and expanding use of managed care. Three issues relevant to improving access are discussed in this report:

- ensuring quality in Medicaid managed care,
- monitoring access of Medicaid beneficiaries, and
- Medicaid payment policies for services of nonphysician practitioners.

Ensuring Quality in Medicaid Managed Care

One way to increase access to care of Medicaid beneficiaries is to expand the use of risk-contracts with managed-care organizations such as HMOs.³ Well-run managed-care organizations can strengthen physician-patient relationships, guarantee access to providers, improve preventive care, and ensure quality of care. The Commission is concerned, however, that capitation arrangements have incentives to reduce the number of services, increasing the likelihood of underservice.

Previously, the Congress responded to similar concerns by establishing indirect proxies for quality and making it easy for beneficiaries to disenroll. It placed a ceiling on the allowable proportion of plan members from Medicare and Medicaid (referred to as the enrollment composition rule), gave favored treatment for those organizations meeting standards for federally qualified HMOs, and allowed voluntary disenrollment from some plans with one month's notice (referred to as the anti-lock-in rule).

³ This discussion does not apply to primary-care case management programs in Medicaid, in which primary care physicians are paid a monthly capitated amount to perform a gatekeeper function.

Recent advances in methods to ensure quality, if adopted by Medicaid programs, could more directly maintain standards of quality, thereby lessening concerns about managed care. Recognizing the potential of these advances, HCFA has developed the Health Care Quality Improvement System (HCQIS), a quality assurance system for Medicaid risk-based managed care. The HCQIS defines roles and responsibilities of HCFA, state Medicaid programs, managed-care plans, and external quality review organizations. It provides guidelines for internal quality assurance programs, clinical and health service quality indicators, and guidelines for external review.

Those Medicaid programs that are in full compliance with HCQIS requirements should be permitted to drop the indirect proxies for quality. Those programs should be permitted to obtain Section 1915(b) waivers from the enrollment composition rule and the anti-lock-in rule. Use of a waiver mechanism would, on the one hand, provide states with flexibility to expand the use of managed care. On the other hand, given the importance of effectively implementing the elements of HCQIS, a waiver would provide the federal government with the ability to oversee the implementation of changes, assuring compliance with federal goals. Other requirements relating to risk-based plans, such as the inability of HMOs or prepaid health plans to terminate enrollment on the basis of health status, would be retained.

In addition, for those states in full compliance with HCQIS, the period to which Section 1915(b) waivers apply should be lengthened to five years. This would substantially lessen the administrative burden on states without significantly weakening federal oversight.

Within five years, all Medicaid programs using risk-based managed care should incorporate enhanced quality assurance mechanisms. Although many states are currently capable of meeting these standards, others need technical assistance and, possibly, financial support. Demonstrations of the HCQIS in three states and evaluation of these funded by the Kaiser Family Foundation will provide more systematic information about the implementation of the new quality assurance system and ways to improve it.

Monitoring Access for Medicaid Beneficiaries

Over the past year, the Commission has focused its Medicaid work on developing methods for measuring access to care that can be used by state Medicaid programs and by HCFA. Unlike the Commission's experience in monitoring access for Medicare beneficiaries, the first step in Medicaid must be data development. Unfortunately, little attention has been paid to the development of either claims or survey data: Medicaid claims data are inadequate and Medicaid-specific survey data do not exist. Nonetheless, with a sufficient commitment to data development by HCFA, many dimensions of access could be measured regularly.

A national claims-based data system should be developed for Medicaid. Such a system not only would permit monitoring of access, but also would fulfill other needs such as profiling physician practices and tracking and projecting expenditures. The federal government should assume primary responsibility for funding the system.

The Commission is also exploring the potential of developing a Medicaid survey or a Medicaid supplement to an existing national survey that could be used to measure access. Informed by experience of other surveys, a pilot survey will be conducted to both assess feasibility issues and evaluate the validity of measures.

Medicaid Payment Policies for Nonphysician Practitioners' Services

With nonphysician practitioners playing an increasing role in the delivery of medical care services, the Commission inquired about whether Medicaid programs were making NPP services accessible to their beneficiaries. Its staff surveyed all Medicaid programs to determine their policies on coverage and payment rates for services by nurse practitioners, certified nurse-midwives, and physician assistants.

As in many other aspects of Medicaid policy, the state programs are required by the federal government to cover certain services by NPPs and have the option to cover other services. Thus, the survey focused on what NPP services not mandated by the federal government were covered under state policies.

Overall, the survey found that many states have expanded coverage of services provided by NPPs beyond the federal mandates by including additional NPPs as participating providers and by covering all services that professional practice acts permit NPPs to perform. Nonphysician practitioner coverage in Medicaid is generally more extensive than in Medicare. Some programs' payment policies are more restrictive than practice acts, especially in the case of physician assistants. Tight budgets — not quality — are generally cited as the prime reason for restrictions.

For the most part, payment levels for nurse practitioners and certified nurse-midwives are higher percentages of the physician fee than in Medicare. In nearly half the states, nurse practitioners and nurse-midwives are paid at 100 percent of the physician fee level. States may be compensating, however, for the fact that Medicaid physician fee levels in the majority of states are considerably lower than those of Medicare or private payers.

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The Physician Payment Review Commission submits its seventh annual report to the Congress at a time of heightened interest in health system reform. The issues raised in the Commission's early reports, although specific to Medicare, were a reflection of the conditions jeopardizing the U.S. health care system as a whole. In part, the problems confronting Medicare were first brought to national attention because Medicare spending was consuming an increasing proportion of the federal budget, impeding efforts to lower the federal deficit. Program costs were escalating rapidly. Payment incentives rewarded physicians for providing more services and for choosing specialty rather than primary care. The system could be characterized by its variation in payments among services, specialties, and geographic areas as well as in physicians' practice patterns. The seemingly straightforward process of paying for physicians' services became more and more complex and bewildering to physicians and patients from the cumulative effect of incremental measures to control the factors fueling cost increases. And added to this confusion, beneficiaries faced a growing financial burden through the higher premiums, copayments, and extra fees they paid for Medicare-covered services as well as the rising costs of services not covered by the program.

The development of reforms in Medicare payment — initially with the introduction of the prospective payment system for hospitals and then with the implementation of Medicare physician payment reform — can be viewed as the beginnings of system reform. In its first report to the Congress in 1987, the Commission defined a series of goals to guide its decisionmaking. These included ensuring access to high-quality care and financial protection for beneficiaries, promoting equity among physicians, protecting those paying the costs of the program (both taxpayers and beneficiaries) by slowing the growth in expenditures, simplifying the system, and retaining a pluralistic delivery system. The Medicare payment reform adopted by the Congress in 1989 reflected these goals and the Commission's recommendations on how to achieve them.

As the Congress reshaped Medicare physician payment policy, it asked the Commission to consider issues related to Medicaid physician payment as well. State Medicaid programs shared some of the same problems that Medicare faced, and these were exacerbated by severe constraints on state resources and the growing burden of recessionary conditions increasing public assistance and Medicaid rolls. Recent sharp increases in Medicaid expenditures caught many by surprise and made cost containment in Medicaid a higher federal priority. Tracking expenditures is particularly difficult because an adequate national data system to monitor the program does not exist. Improving access remains a central issue for the Medicaid program both for the program's beneficiaries and for those who cannot afford health insurance but are currently ineligible. Some states have adopted aspects of the Medicare Fee Schedule as

part of their efforts to increase access to primary care. Many states are expanding their use of managed care in Medicaid, relying on the potential for organized systems of care both to improve access and to contain costs.

As the Commission looks at system reform, it sees the problems confronting Medicare and Medicaid as a microcosm of those plaguing the health care system. Anticipating the need to address health care issues more comprehensively, the Congress expanded the Commission's mandate in 1990, asking it to consider policies related to controlling health care costs faced by employers, financing graduate medical education, reforming the medical malpractice system, and ensuring quality of care. This mandate has allowed the Commission to integrate its work on Medicare and Medicaid into a broader appraisal of the health care system. As the Commission has taken up this wider range of issues, it has sought to emphasize the need for an approach to reform that considers the interrelationships between financial incentives, system capacity, and an infrastructure that assists physicians in containing costs through improvements in medical practice.

This year's report to the Congress takes the goals of reform, whether within the Medicare and Medicaid programs or the broader health care system, to be improving access, containing costs, and ensuring quality. The first part of the report focuses on health system reform. It begins with an examination of the two major approaches to reform: rate setting and managed competition. It then describes the data requirements for monitoring costs and quality under either approach to reform and a model for a national data system. Emphasizing that the continued growth in physician supply has made stemming the tide in spending for health care more difficult, the Commission recommends a set of policies in this year's report for restructuring graduate medical education.

After reviewing issues related to health care reform, Part II of the report looks back at the first year's experience under the Medicare Fee Schedule. This work both fulfills the Commission's responsibilities to monitor the implementation of Medicare payment reform and offers valuable insights for the design and implementation of health care reform. This part of the report looks first at the effects of the Medicare Fee Schedule on beneficiaries and then analyzes its impact on physicians, including how physicians have responded to changes in payment policy. It also describes how other payers are incorporating elements of the Medicare Fee Schedule into their payment policies.

Potential refinements in the fee schedule are raised in Part III of the report. The Commission offers recommendations to the Congress to adopt resource-based methods for determining practice expense and malpractice expense relative values. It reviews the results of the Health Care Financing Administration's (HCFA) process to refine the Medicare Fee Schedule for 1993 and describes the characteristics of acceptable future processes for revising the relative values for physician work. Following up on its previous recommendation to pay no more for anesthesia services provided by an anesthesia care team than by a solo anesthesiologist, the Commission specifies how to accomplish this change.

The Medicare Volume Performance Standard (VPS) is another major aspect of the Medicare physician payment reform addressed in this year's report. Implementation of the VPS began in 1990. Part IV of the report reviews the experience with the VPS since that time and recommends a series of policy refinements. How the VPS has been carried out and the issues that have arisen in the course of its implementation are instructive in considering options for expenditure limits under health care reform.

The final part of the report focuses on improving access for Medicaid beneficiaries. It makes recommendations for permitting greater flexibility to states in the use of risk-based managed care if they comply with quality assurance standards recently defined by HCFA, and it explores the potential of using claims and survey data to monitor access for Medicaid beneficiaries. While these chapters focus on the Medicaid program, the issues they raise are equally relevant to health system reform. The final chapter of the report presents new information on state Medicaid policies related to coverage of services provided by nonphysician practitioners.

CONTEXT: THE RISING COST OF MEDICAL CARE

Restructuring the financing and delivery of health care in the United States is the major topic on the public policy agenda for 1993. The main goals guiding policymakers' efforts to design health system reform are to increase access, constrain rising costs, and ensure the quality of care. Ultimately, whatever reforms are adopted will be judged by their success in achieving each of these goals. Nonetheless, much of the discussion surrounding system reform seems to focus first on finding ways to contain costs.

Rising expenditures for medical care are an impediment to both reducing the federal deficit and strengthening the nation's economy. Moreover, it is difficult to envision expanding access without controlling the costs of care. The challenge for the architects of health system reform thus is to develop a strategy that is successful in bringing spending under control so that access can be expanded, but doing so in a manner that creates incentives for changes in medical practice that will ensure the quality of care.

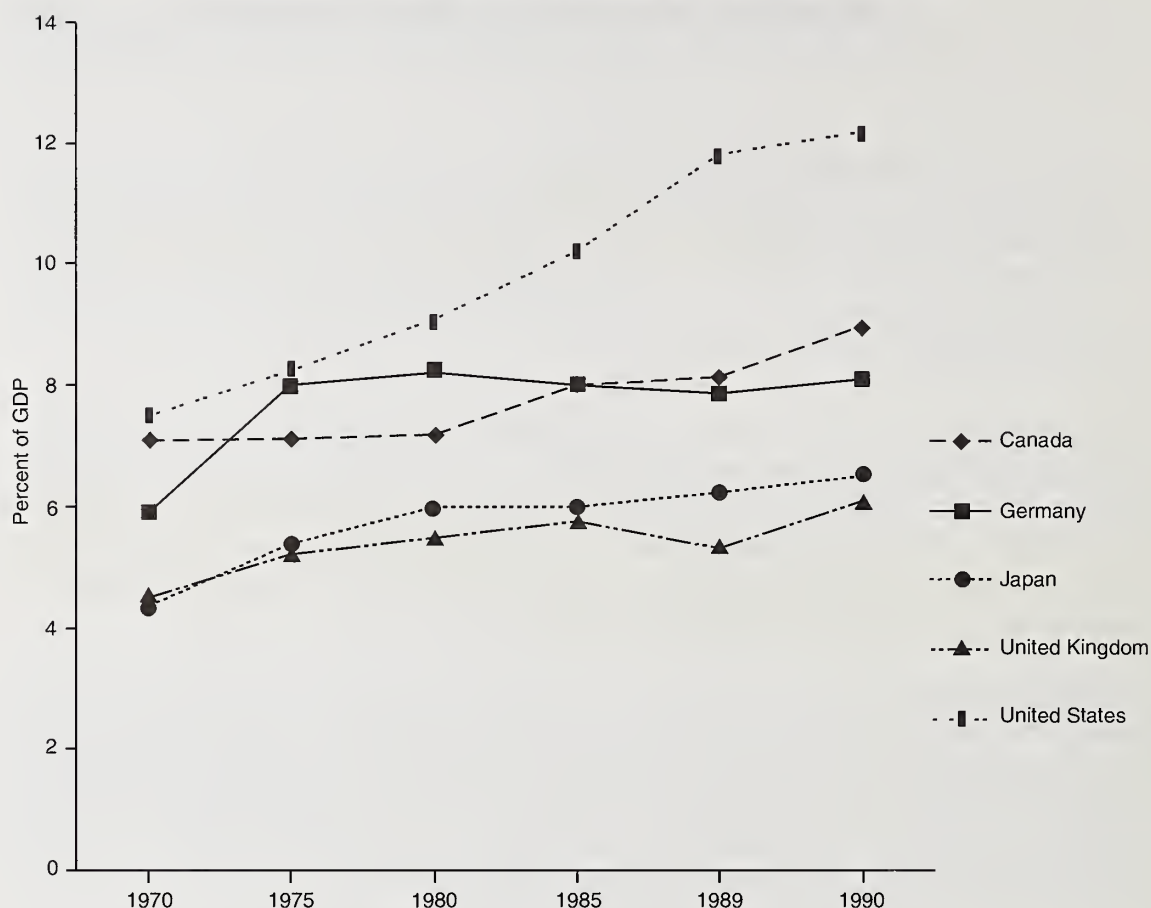
Strategies to contain costs must be based on an understanding of the factors affecting their growth. To provide a context for considering the various approaches to health system reform now being deliberated, this chapter examines these factors and the implications of continued escalation in health care expenditures. Drawing on the Commission's work to develop policies to constrain growth in Medicare expenditures for physicians' services, the chapter gives particular attention to the rise in spending for these services.

EXPENDITURE TRENDS

Growth in national spending for health care has exceeded that in the overall economy in 29 out of the last 32 years (Committee on Ways and Means 1993). In 1992 national health expenditures climbed to more than \$800 billion, three times the level in 1980, and accounted for 14 percent of the gross domestic product (GDP).¹ Compared with other developed nations, the United States devotes a much larger portion of its national resources to health care (Figure 1-1). Without any significant efforts to curtail growth in expenditures, the Congressional Budget Office (CBO) projects that spending on health care will reach almost \$1.7 trillion, consuming 19 percent of GDP by the year 2000 (Reischauer 1993).

¹ Time periods for trends presented in this chapter vary due to the diversity of data sources used.

Figure 1-1. Health expenditures as a percentage of Gross ^a Domestic Product, for U.S. and selected countries, 1980-1990

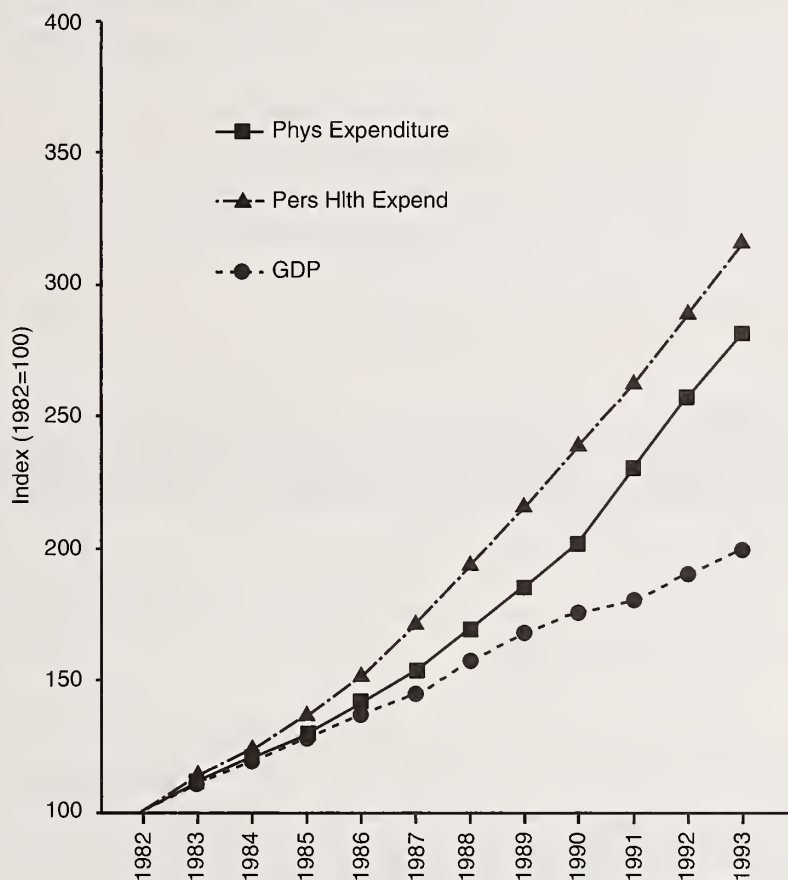


^a Gross domestic product is equal to gross national product less net property income from abroad.

Source. Schieber and Poullier 1991; Organization for Economic Cooperation and Development, Health Data File, 1991.

Nearly 90 percent of national health spending falls into the category of personal health expenditures, which includes all spending directly related to patient care. The portion of personal health expenditures devoted to physicians' services has risen from 19.4 percent in 1983 to 21.5 percent in 1992. Over the decade, spending on physicians' services grew at a rate of 11 percent per year, from \$61 billion to \$153 billion (CBO 1992). Increases in expenditures for physicians' services have consistently outpaced the growth in both GDP and personal health expenditures (Figure 1-2).

Figure 1-2. Trends in physician expenditures, personal health expenditures, and Gross Domestic Product, 1982-1993^a



^a Data for 1992 and 1993 are projected.

Source. Congressional Budget Office.

THE COMPONENTS OF GROWTH IN SPENDING

Expenditures equal the product of the prices paid for services and the quantities of services provided. Thus, growth in spending results from increases in those prices and in the number of services or changes in the mix of services furnished to patients. **Increases in services can be separated further into two components: those due to growth and aging of the population and those due to changes in the practice of medicine.** The following sections examine the factors affecting both price and quantity as they relate specifically to physicians' services.

Price

During the 1980-1990 period, the consumer price index (CPI) component for physician fees increased an average of 7.7 percent per year. This was a higher rate of growth than that of the overall CPI, which rose at an average rate of 4.7 percent per year. This difference suggests that over the course of the decade, physician fees outpaced general inflation by 33 percent.

on more appropriate basis

The physician fee component of the CPI may overstate price growth, however, because it reflects usual charges rather than the discounted fees physicians actually received. Discounting practices became more widespread during the 1980s.² The fact that the CPI does not account for improvements in quality of care is another reason that it may overstate price increases (Reischauer 1993).

The increase in prices for physicians' services during a period when physician supply was also expanding was not expected in the late 1970s and early 1980s, when it was argued by a number of economists that the growth in the physician-to-population ratio during the coming decade would by itself hold physician fees in check. The fact that price and physician supply rose simultaneously suggests that physicians compete on factors other than price, such as quality and amenities, and have substantial abilities to influence demand for their services.

Increasing prices may be due in part to higher physician practice expenses (such as nonphysician staff payroll, rent, medical equipment and supplies, and malpractice insurance premiums) which rose more rapidly than general inflation during the 1980s. The most rapidly growing component has been malpractice premiums, though these declined at the end of the decade. Payroll for nonphysician staff has also gone up rapidly, perhaps reflecting greater administrative burdens and the need for additional technical staff to support increased provision of diagnostic tests and procedures.

Changes in billing practices, such as unbundling and upcoding, may also be contributing to the growth in the price component of expenditures. Unbundling raises the price if the payment for a global package is lower than when its component services are separately billed. Upcoding refers to the practice of describing a particular service using a code with a higher allowed charge, such as billing for a level 3 rather than a level 2 office visit. Some unbundling and upcoding is inadvertent, and may reflect the ambiguity of codes or billing conventions in a particular area. Because neither of these billing practices is reflected in the CPI, this portion of expenditure growth due to price is generally included in the estimate of volume. The magnitude of these billing practices and whether they have been increasing over time is unclear.

Population Growth and Demographic Changes

Population growth and demographic changes are often mentioned as being major causes of rising physician expenditures. While they do contribute to overall spending growth, their impact has been relatively small. The U.S. population is growing at 1 percent annually, which means that there are increasing numbers of consumers of health care services. Given a constant per capita use of services, this trend would contribute 1 percentage point to expenditure growth annually. The aging of the American population also contributes to

² The CPI is now being revised to capture the actual fees paid, but earlier data have not been adjusted.

greater use of health care services but is estimated to increase the quantity of physicians' services by only 0.2 percent per year (Table 1-1) (CBO 1992).

Volume of Services per Capita

The component referred to as volume of services is that portion of expenditure growth remaining after price and population growth are taken into account. The limitations of the CPI price data that were described above have led to underestimates of the role increased volume has played in rising national health expenditures.³

Table 1-1. Growth in expenditures, 1983-1992 and projected growth, 1992-2000
Percent

	Physicians' services expenditures		Personal health expenditures	
	1983-1992	1992-2000 ^a	1983-1992	1992-2000 ^a
Total growth	10.9	9.5	9.3	9.8
Factors accounting for growth				
Population increase	1.0	0.8	1.0	0.8
Demographic composition	0.2	0.2	0.4	0.5
General inflation	3.6	3.2	3.6	3.2
Other price and intensity ^b	5.7	5.0	4.5	5.3

^aBased on CBO projections.

^bOther price and intensity includes price increases in excess of the GDP deflator, additional volume of services per physician visit, increases in the complexity of services, and changes in use per person.

Source. Congressional Budget Office.

Because Medicare price information is more reliable, data from the Medicare program permit the most accurate assessment of volume increases. Between 1986 and 1990, the volume of services per Medicare enrollee rose by 33 percent, or an average rate exceeding 7 percent per year. If this rate of increase continues until the year 2000, enrollees, on average, will receive twice as much medical care as they did in 1990. Of course, the experience of Medicare beneficiaries who are elderly and disabled is not representative of the entire population, but

³ Because of the potential for error in using the CPI to determine price increases, CBO combines into a single factor volume and price increases above inflation in accounting for expenditure growth. CBO analyses point to the higher-than-average price increases providers receive and the rapid growth in service intensity as key cost drivers of both personal health spending and spending for physicians' services.

data from the Blue Cross and Blue Shield Association suggest that volume growth has been at least as rapid for their privately insured population.⁴

The increase in volume per Medicare enrollee between 1986 and 1991 was not distributed equally across categories of services (Table 1-2). For example, laboratory tests and cardiac services each grew by more than 12 percent per year.⁵ Diagnostic services, endoscopies, and other medical procedures were the next fastest growing service groups, with annual increases of 9 percent or more. Visits and surgery registered relatively lower rates of increase.

Table 1-2. Components of Medicare volume increases, per enrollee, 1986-1991
Percent

Category of service	Average annual rate of change	Percent of volume increase
Visits	4.1	19.3
Laboratory tests	15.1	12.9
Diagnostic procedures	9.5	12.0
Cardiac services	12.5	10.9
Other medical procedures	10.6	6.1
Endoscopy	9.3	5.1
Surgery	6.6	25.7
All other services	12.3	8.0
All services	---	100.0

Source. Commission analysis of BMAD and National Claims History data for 1986-1991.

Within these service categories, some services experienced tremendous volume growth (Table 1-3). For example, the volume of magnetic resonance imaging (MRI), a technology that was just becoming available in the mid-1980s, rose 51 percent annually between 1986 and 1991.⁶ Cardiac angioplasty increased 28 percent per year. By contrast, lens replacement for cataracts, which grew considerably during the mid-1980s, tapered off during the latter part of the decade.

The total contribution of each service category to volume growth results from both the category's annual rate of increase and its share of total services. Therefore, some categories,

⁴ Data for Medicare and from the Blue Cross and Blue Shield Association span a narrower period than that covered by CBO in Table 1-1. The rate of growth in volume for Medicare and Blue Cross and Blue Shield is somewhat higher than that reported by CBO. Because of possible inaccuracies in the CBO expenditure data in Table 1-1, the Commission has greater confidence in the Medicare and Blue Cross and Blue Shield data.

⁵ Medical procedures include, for example, diagnostic ophthalmological services, injections, pulmonary evaluations, and electroencephalograms.

⁶ Large annual growth rates in the early years after introduction of a new technology may be misleading because they start from a base of zero. Monitoring trends over a longer period is necessary to see whether the growth rate diminishes after this introductory period or remains high due to further diffusion and new applications.

Table 1-3. Medicare volume increases for selected services, per enrollee, 1986-1991

Percent

Service	Average annual rate of change	Percent of volume increase
Magnetic resonance imaging	51.2	3.2
Angioplasty	27.9	1.5
Upper gastrointestinal endoscopy	10.4	1.6
Echocardiogram	23.1	3.1
Cataract lens replacement	6.6	5.5

Source. Commission analysis of BMAD and National Claims History data for 1986-1991.

such as surgery and visits, have a large contribution to total growth despite their relatively low growth rates. These two categories accounted for nearly half of the total volume growth between 1986 and 1991.

FACTORS AFFECTING VOLUME

Growth in volume appears to stem from multiple forces that are changing the way medicine is practiced. The predominance of fee-for-service payment provides physicians with an incentive to furnish services to patients. Moreover, while elementary economics would predict that the quantity of services demanded will decline when prices increase, the presence of third-party payment has made many consumers substantially indifferent to the amount of care prescribed and its price. This unconstrained environment permits factors such as increasing physician supply and technological change to raise spending substantially.

Physician Supply and Specialty Distribution

Physicians appear to have considerable ability to determine demand for their services. This has meant that a growing supply of physicians can drive up the volume of services provided without reducing prices, and therefore maintain income levels even as their numbers increase.

Between 1970 and 1990, the number of physicians per capita increased more than 50 percent. These trends are expected to continue through the year 2000 and beyond. If expenditures per physician and the physician-to-population ratio both continue to grow at current rates, total spending for physicians' services, as a percentage of the gross national product, could double between 1986 and the end of this decade (Grumbach and Lee 1991).

There is a general consensus that a physician surplus exists or will soon exist (Weiner 1989). Many argue that excess supply leads to provision of more unnecessary care, makes it more likely that physicians trained in narrow fields will practice outside their area of competence, and drives up health care costs (Ginzberg 1983; Grumbach and Lee 1991; Schroeder 1984). Together, these consequences of growing supply could undermine efforts to bring health care costs under control.

Another factor that appears to contribute to expenditure growth is the increasing specialization of physicians. The proportion of the physician work force in medical subspecialties (such as cardiology and gastroenterology) doubled between 1970 and 1990. Specialization can raise expenditures for two reasons. First, specialists have higher revenues than primary care physicians, reflecting in part the inequities in relative payment of the current payment system. Second, there is considerable evidence that care provided by specialists is more intensive and more expensive than that provided by generalists (Engel et al. 1989; Greenwald et al. 1984; Manu and Schwartz 1983; Mendenhall et al. 1984; Noren et al. 1980; Eisenberg 1986).

Physicians' ability to induce demand can also lead to increases in the volume of services to partially offset fee cuts. This pattern has been observed in Canada and Germany and, recently, in the Medicare program. Research by the Commission into the impact of reductions in payment rates for overvalued procedures implemented in 1988, 1990, and 1991 show that in geographic areas where these reductions were larger, volume increases were higher. On average, the estimated offsets were between 30 percent and 40 percent. The magnitude of these offsets varied by type of service, with surgical procedures appearing to have a smaller response than medical procedures, and by year, with the 1991 offsets appearing to be smaller than those estimated for the earlier years (see Chapter 6).

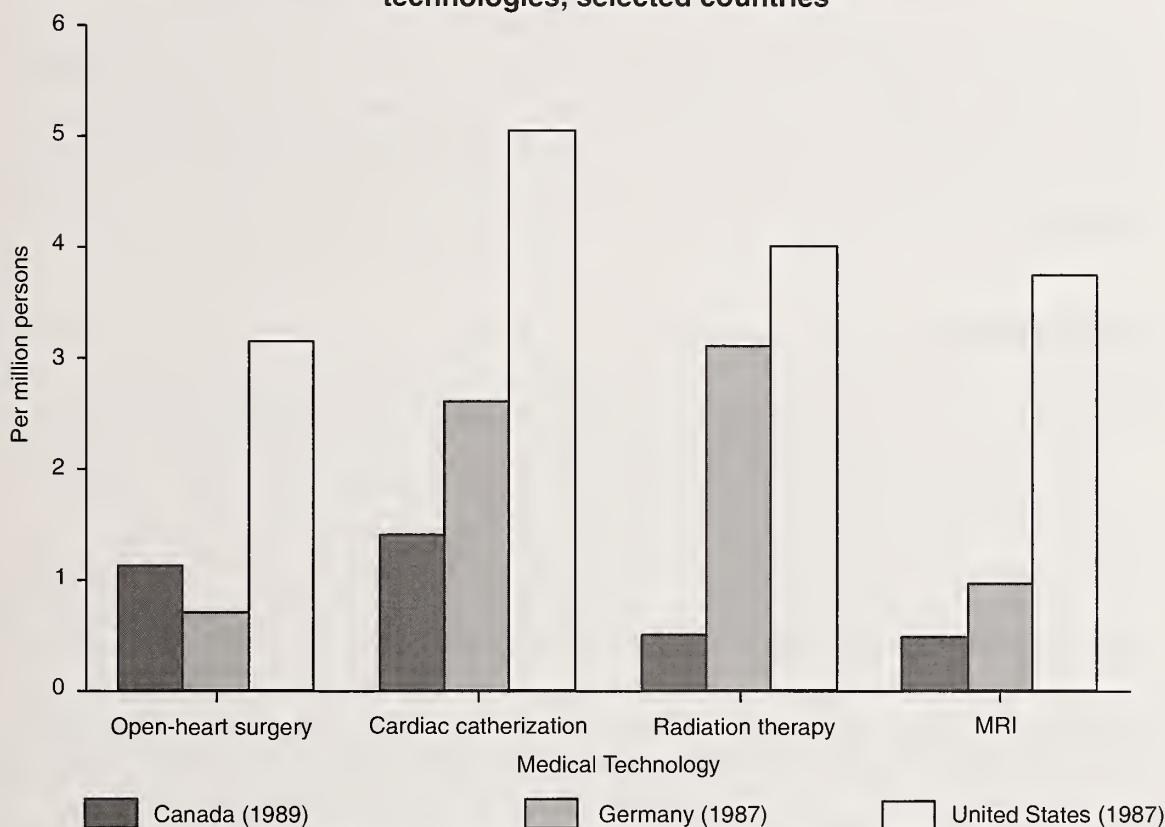
These estimates are for short-term responses to changes in payment rates. Long-term responses may be different. For example, the offset for reductions in payments for surgical services has diminished with each succeeding year of reductions. Recent Commission analyses of claims data from the first six months of 1992 are consistent with earlier findings and, for the first time, present the opportunity to examine responses to increases in payment rates for certain services as well (see Chapter 6).

Technology

Americans have long been fascinated by the potential for science and technology to provide solutions to societal problems, and they have been very receptive to their use. This is readily apparent in the health sector where, for example, lasers, fiberoptics and other new technologies are increasingly being used for diagnosis and treatment. The introduction and diffusion of such new products and processes may increase expenditures if they substitute for less expensive services or result in the provision of more care. This may have a rippling

effect on the practice of medicine as technologies move from hospitals to physicians' offices and as existing technologies are put to new uses. Heightened expectations and price insensitivity on the part of consumers and providers create an environment in which new technologies are readily adopted, even when the benefits are small. In a recent article, Newhouse (1992) argues persuasively that more than 50 percent of health expenditure increases are related to technological change.

Figure 1-3. Comparative availability of selected medical technologies, selected countries



Source. Rublee, Dale, "Medical Technology in Canada, Germany, and the United States, *Health Affairs*, 1989.

Medicine is changing rapidly and the implications of its increasingly technological nature are not well understood. New technology is integrated much more rapidly into medical practice in the United States than in other industrialized nations, some of which have strict controls on its use (Figure 1-3). While many Americans have ready access to the most advanced technologies, this has a downside. Rapid diffusion of technologies without careful assessment of their benefits and risks may result in care that provides little benefit or is harmful to patients. The precise impact of this inappropriate care on expenditures is not known, and estimates of its level and rate of growth vary widely (Bernstein 1993; Chassin 1989; Schoenbaum 1993).

Some uses of new technology may be primarily defensive — that is they may be ordered in response to the threat of malpractice suits rather than to meet a particular patient's clinical needs. This may be particularly true for certain services such as imaging (CT scans and MRIs), diagnostic tests (cardiac stress tests and chest X-rays), and cesarean deliveries. While the costs of defensive medicine have been very difficult to measure accurately, the limited literature in this area suggests that these costs are important and that malpractice reform should be pursued. Even so, a substantial reduction of defensive medicine would still leave expenditures at levels that are far too high.

The benefits from containing costs are considerable for individuals and the nation. The trends in health care spending suggest that the task will be formidable. Much could be gained, however, from a set of policies that work together to restructure financial incentives to promote cost-effective use of medical services, restrain the growth in system capacity, and encourage more rational decisionmaking about the diffusion and use of technology.

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COSTS AND QUALITY IN HEALTH SYSTEM REFORM

Health system reform encompasses a broad range of policy issues. These include expanding insurance coverage to those without the means to afford it and to those denied the opportunity to purchase it because of their likely need for care. Measures to contain health care costs and to maintain and improve the quality of care are also of paramount importance.

The Commission's six years of experience in dealing with the latter issues in the context of the Medicare and Medicaid programs have prepared it to advise the Congress on these aspects of health system reform. Indeed, in 1990, the Congress specifically asked the Commission to analyze issues such as policies to control health care costs faced by employers, access by Medicaid beneficiaries, ensuring the quality of care, financing graduate medical education, and reforming the medical malpractice system.

This is the first of three chapters that directly address cost and quality issues related to health system reform. Chapter 3 describes a strategy for developing a national data system. Under any approach to reform, the current fragmented state of data on costs and quality is likely to be a serious impediment to success. Chapter 4 addresses federal policies to alter the physician work force through placing limits on the number and specialty distribution of residency positions and encouraging training in ambulatory settings. It outlines a series of policies to restructure the financing of graduate medical education.

In contrast to Chapters 3 and 4, which include specific Commission recommendations, this chapter presents a broad overview of the alternatives to contain costs and enhance quality. Rather than providing specific recommendations to the Congress, the Commission seeks in this chapter to inform about the potential and risks of two broad strategies to containing costs and maintaining quality: rate setting and managed competition. Indeed, considering that it will not be easy to gain consensus for support of either of these to the exclusion of the other, much of the discussion focuses on how elements of each might be combined to build a program with a reasonable chance of succeeding. While such combinations often lack elegance from a philosophical perspective, they show substantial promise from a practical one.

The chapter begins by describing rate setting and managed competition in their basic forms. It spells out the theory underlying each strategy and then describes the potential for each to fall short of achieving what theory predicts. The discussion then highlights various ways in which elements of the two approaches could be combined. The Commission plans to issue a more detailed report on health system reform once the President has delivered his plan.

The reader should bear in mind that this discussion does not cover health system reform in its entirety, but only those aspects related to cost containment and quality of care. Nevertheless, there are few instances in which an approach to cost containment dictates the other aspects of health system reform and vice versa. For example, a single-payer plan could contain costs through rate setting (as in Canada) or through capitating organized systems of care (as in the bill introduced by Representative John Dingell in 102nd Congress or the managed-competition proposal of California Insurance Commissioner John Garamendi).¹ Under an employer mandate to provide health insurance, costs could be contained either by an all-payer rate-setting system or by paying premiums to a local purchasing pool, such as the health insurance purchasing cooperative (HIPC) described in the proposal of the Jackson Hole Group (Ellwood et al. 1992). As a result, conclusions about the most desirable strategy to contain costs can be developed separately from decisions about how to expand insurance coverage and pay for it.

TWO BROAD STRATEGIES

Behind the extensive rhetoric concerning how to contain costs in the health system as a whole, strategies referred to here as *rate setting* and *managed competition* are the ones that are reflected in legislative approaches. This section describes each in a generic way.

Before contrasting these two approaches, some key issues on which proponents of each strategy agree are noted. One is the need for substantial cost containment. Another is what has caused the cost problem. Although the causes are numerous, a major one is the combination of fee-for-service payment for care and extensive third-party payment, which encourages the provision of services and discourages restraint on prices. Related manifestations include unconstrained development and diffusion of expensive technologies, “medical arms races” to construct the most attractive facilities offering the latest services, and graduate medical education that is strongly oriented toward training procedural specialists, all of which further increase spending.

Finally, both approaches emphasize the importance of providing information to physicians to enable them to practice more effectively and efficiently. This depends on continued and expanded federal funding for research on medical outcomes and effectiveness. The Congress initiated a program to accomplish this in 1989 when it created the Agency for Health Care Policy and Research (AHCPR). The Congress also directed the agency to develop practice guidelines. Both the agency and the medical profession have made substantial progress to date, although some important changes in approach are needed (PPRC 1992). Guidelines can be used both in educational contexts and utilization review decisions.

¹ The Dingell bill (H.R. 5514) would raise revenue through a value-added tax and make payments to a variety of entities, including capitated health plans. Under the Garamendi proposal, local boards would levy a payroll tax and pay premiums to health plans (Wicks et al. 1992).

Technology assessment is another important application of research on medical outcomes. New technologies diffuse rapidly, often without any assessment of their effectiveness. Additional resources for technology assessment could avoid a great deal of waste from extensive use of technologies that ultimately prove not to be effective.

Rate Setting

Under the rate-setting strategy, cost containment is driven by public decisions on rates of payment for medical care services. Whether through traditional public decisionmaking or negotiations between public officials (or purchasers as a group) and provider representatives, a series of rates would be established for inpatient hospital care, physicians' services, outpatient hospital care, and other services. By setting these rates lower than current ones or allowing them to increase more slowly, the rate of increase in health care costs could be reduced markedly.

Limiting rates of payment can lower spending in two ways. One is by reducing prices for individual services, such as an X-ray or an office visit. Providers could possibly sustain such limitations by producing services more efficiently and by finding ways to pay lower prices to their suppliers. Thus, a medical practice could respond to reduced fee levels by using less space and paying lower rental rates, finding ways to provide services with fewer or lower-paid employees, purchasing less expensive models of equipment, and paying less income to the physician who owns the practice. Similarly, hospitals can take steps to increase efficiency and look for ways to pay less for labor, supplies, and equipment.

Systemwide pressure on rates of payment for health care services is likely to expand the opportunities for providers to economize on the prices they pay for inputs. For example, if health care providers take steps to employ fewer workers with specialized health care skills, wage rates are likely to fall. Similarly, if most providers seek the "no-frills" model of a type of equipment, more of a manufacturer's development resources are likely to go into producing lower-cost versions.

The second way in which limits on payment rates can reduce spending is through the use of a unit of payment that is broader than the individual service. Bundled payment creates incentives for providers to economize on the quantity of services delivered. Medicare and some states already determine hospital payment on a per admission basis. Hospitals can respond to these incentives by limiting lengths of stay and the tests and procedures delivered during the stay. Determining the hospital payment as an annual budget for the institution would provide another tool for economizing resources by limiting admissions.

In the case of physician payment, the more limited use of bundled payment provides fewer opportunities for rate setting to induce economizing on the number of services provided. Most physicians' services are paid on a fee-for-service basis. When payment rates are constrained under fee for service, the experience in the Medicare program — as well as in Canada and

Germany — has been that the quantity of services billed increases to offset a portion of the reduction in payment rates (Barer et al. 1988; Kirkman-Liff 1990).² An important exception is the global fee for surgery. This longstanding practice of payment that covers not only the operation but defined preoperative and postoperative care provides surgeons with incentives to economize on these services. Other bundled payments, such as one covering all physicians' services provided during an inpatient stay, one covering all services associated with a visit, or one covering an episode of care, have been widely discussed. With further development, one or more of these could be incorporated into a rate-setting system. Use of capitation payments for primary care or certain specialty services has been increasing, but mainly in the context of certain types of health maintenance organizations (HMOs).

Under the rate-setting strategy, decisions on annual increases in payment rates might be linked to decisions on what proportion of national resources should be devoted to health care. Once an expenditure limit is determined and changes in the quantity of services are projected, a rate change can be calculated. With distinct rates of payment for each major component of health services — for example, inpatient hospital, physician, and so forth — there might be significant latitude regarding where to place the relative pressure on rates to meet the expenditure limit.

Although payment rates can be set to limit aggregate spending to a particular target, setting them too low could compromise access or quality. In the short run, opportunities likely exist to constrain payment rates significantly without risking these sacrifices. But at some point, providers might not be able to continue furnishing necessary services.

Over time, the degree of constraint on service prices that is practically achievable may well be inadequate by itself to meet society's goals for cost containment. The data presented in Chapter 1 suggest that trends of increasing volume of medical services per capita — reflecting changes in medical practice — are so rapid that slowing this growth is a critical component to stabilizing health spending as a percentage of gross domestic product. Thus, at least for the long term, the rate-setting strategy must be broadened to include development of an infrastructure to support improvements in medical practice and steps to limit the capacity of the system.

Outcomes research and practice guidelines are important elements in such an infrastructure. But providing good information to physicians does not ensure desirable changes in practice. Physicians need both support and incentives to enable them to use such information more effectively. At present, the system is oriented more toward penalizing those physicians practicing in an inappropriate manner, though promising demonstrations are under way that emphasize support and positive incentives for changing behavior.

² For the most recent research on the Medicare experience, see Chapter 6.

Insurers conduct extensive utilization review activities today in the United States. While these presumably are cost effective from their perspective, utilization review imposes significant costs on physicians in terms of staff resources, time, and loss of autonomy. Additionally, physicians find such review to be intrusive and not constructive. The development of better practice guidelines and programs to use them might make these activities more effective by expanding the range of physician decisions that are subject to review and providing a sounder basis for questioning practice decisions (Institute of Medicine 1990).

A change in emphasis from case-by-case review to profiling physicians might reduce the "hassle factor" without impairing effectiveness. Profiling can be used either as a utilization review technique by insurers or as a component of an educationally oriented process. When used by insurers, profiling offers the potential of reducing the intrusiveness of utilization review for a large majority of physicians. When used as an educational tool, such as when physicians are convened to discuss variations in practice patterns, profiling can encourage discussion of mainstream as well as outlier practice patterns. Such use may influence the practice patterns of physicians who are not outliers. Fragmented data systems are a major barrier to expanded use of profiling, but the strategy for a national data system, which is described in Chapter 3, can facilitate a greatly expanded use of these techniques.

Under the rate-setting strategy, the medical profession might expand its role in activities to support more appropriate practice by physicians. To the degree that physicians as a group are put at risk for the quantity of services, their organizations could play a larger role in cost containment. This could range from educational activities that specialty societies are now undertaking at their own initiative in response to the Volume Performance Standards (VPS) (discussed in Chapter 12) to activities in which professional organizations carry out governmental functions to encourage more appropriate practice. An example of the latter is the peer review organization program in which the Medicare program contracts with physician organizations to review utilization and quality of care. This approach has been pursued farthest in Germany, where statutorily established physician associations review claims and profile the utilization of their peers (Kirkman-Liff 1990).

A key element in both increasing the involvement of the medical profession and implementing broad limits on expenditures is linking changes in physicians' payment rates to prior changes in those expenditures. This linkage has been used extensively by a number of Canadian provinces, including British Columbia and Ontario; by Germany; by Japan; and by the Medicare program (Volume Performance Standards).

Limitation of capacity in the medical care system must be an integral part of the rate-setting strategy. With an extensive research literature suggesting that more physicians per capita leads to more services per capita, policies to restrict physician supply could make a significant contribution to slowing the growth in the quantity of services (PPRC 1992). Changing the mix of physicians to emphasize generalists could increase the effectiveness of such policies.

Control over capacity of specialized facilities and equipment may also play a role in limiting the quantity of services. Although state-level attempts to control capacity through certificate-of-need laws have not been encouraging, Canada and Germany have placed meaningful limits on capacity. In those countries, services provided with equipment purchased by physicians or entrepreneurs are not eligible for reimbursement under the insurance system. Most expensive equipment is located in hospitals, with both capital and operating costs budgeted by payers.³ Health system reform proposals that emphasize rate setting have not adequately focused on the control of physical capacity.

Managed Competition

Under the managed-competition strategy, cost containment is addressed primarily through organized systems of care and steps to make health care markets more functional.⁴ Key elements of the strategy include cost conscious choice for consumers, incentives for providers to affiliate with and become stakeholders in organized systems of care, and local boards that manage tendencies for markets to fail (such as risk selection, market segmentation, predatory pricing, and misuse of information) (Enthoven 1993; Starr 1992). Although the names and definitions vary, proponents of managed competition tend to characterize those entities with which consumers contract for health care in the following ways:

- integration of financing and delivery,
- use of a panel of providers selected on the basis of quality and cost management, and
- accountability to purchasers and patients on the basis of information on cost and quality.

While the proponents may have HMOs in mind, they acknowledge that not all HMOs are satisfactory and consider these standards to exceed the norms in current models.

The managed-competition strategy seeks to create more functional markets for health insurance so that health plans are more reliably rewarded for good performance and penalized for poor performance. Although examples of successful organized systems of care exist, their lack of dominance in the health care system results in part from the failure of markets for

³ German sickness funds, which negotiate operating budgets with hospitals, express concern that state governments, which provide the capital funding for facilities and equipment, do not take into account the operating costs.

⁴ Significant short-term savings in administrative costs may be achieved by aspects of these proposals that would create insurance purchasing pools for small employers and for individuals. These options have relatively broad support and some would not characterize them as a component of the managed-competition strategy.

health insurance. Consumers lack the information necessary to make wise choices among health plans and do not have financial incentives to favor more efficient plans. Health plans, on the other hand, may find higher financial rewards in selecting enrollees with lower medical needs than in providing care more efficiently.

Under many versions of managed competition, local boards would be created to manage rules of the game in the marketplace. The local boards would certify health plans, collect funds for premiums from employers and individual consumers, and pay premiums to health plans. Health plans would be required to provide to the local board information on quality that could be used by consumers to choose a plan.

Consumers (or their employers or government) would pay community-rated premiums to the local board. The board would establish rules concerning how health plans could market to consumers, such as limitations on underwriting and disclosure of information. Consumers would choose a health plan annually, paying the difference between the plan's premium and whatever contribution their employer or the government makes. Through such an enrollment process and, under some proposals, changes in tax policy, consumers selecting more expensive plans would pay the difference with their own after-tax dollars.

The local board would then make payments to health plans on a risk-adjusted basis. This means that the effects of risk selection (favorable or unfavorable for any plan) are removed from payments made by consumers, regardless of the plan they choose. The plans would receive different amounts depending on the local board's assessment of enrollees' risk of requiring more-or-less-than-average amounts of medical care.

Plans would be required to offer a standard benefits package. This requirement is designed to help consumers make informed choices of plans and to prevent plans from attempting to attract healthier-than-average enrollees by offering a benefit structure that might appeal only to that segment of the population.⁵

An important difference among the proposals for managed competition lies in the role of the local board. In some, the board would play a relatively passive role: certifying health plans, collecting premiums from employers and individuals, and making risk-adjusted payments to the plans. In others, the local board would play a much more active role. The activities might include selection of a limited number of plans to compete in an area on the basis of a request for proposals, negotiation with plans over premiums, and sponsorship of community-level activities to improve the delivery of health care.

⁵ Supplemental policies covering services excluded from the standard benefit package could be offered. If health plans were permitted to offer them, ways would have to be devised to separate the decision to purchase the supplement completely from the choice of health plan.

Another difference concerns whether premiums of health plans should be regulated. Proponents of pure versions of the managed-competition strategy believe that there is no need to regulate premiums. With consumers choosing among health plans and paying with their own after-tax funds, the correct allocation of resources between health care and other goods and services would be made by the market in much the same way as other resource allocation decisions are made. Other proponents have less confidence in the outcome and would regulate premiums to ensure that cost containment goals are met.

ASSESSMENT OF THE TWO STRATEGIES

While both rate-setting and managed-competition strategies offer significant potential to do a better job in containing costs than current policy, under either one, there may be serious shortfalls between theory and practice. Proponents of each can cite some examples of success, but compelling arguments can be made that the evidence means less than it appears and that the success may not generalize readily. Rather than reviewing the specific examples, this section will emphasize the risks of generalizing from examples and set out the conceptual arguments for the possibility of departures from the theory.

Fortunately, neither strategy is entirely a theoretical construct. Significant experience does exist for at least some of the elements. In the United States, hospital rate setting has been pursued for many years. Maryland, Massachusetts, New Jersey, and New York have administered all-payer rate setting for hospitals for some time (Anderson 1991). Their experience with the technical and political evolution of this approach would be valuable. The Medicare program has paid hospitals on a prospective per case basis since 1984. For physicians' services, the Medicare program has been constraining payment rates to physicians since the mid-1970s and implemented a resource-based fee schedule in 1992.⁶ Canadian provinces and Germany use physician fee schedules with expenditure limits that bear a resemblance to Medicare's.

For the managed-competition strategy, there is experience with some of its elements but little with the overall strategy. Some existing HMOs have inspired the models of organized systems of care. Many large employers have gained experience in offering employees a choice of health plan with incentives to choose on the basis of cost and quality. In the private sector, General Electric, Xerox, and Minneapolis business coalitions are illustrative. In the public sector, the Federal Employees Health Benefits Program and the California Public Employees Retirement System (CalPERS) have offered incentives for beneficiaries to choose efficient plans. In addition, Medicare risk contracting provides opportunities for Medicare beneficiaries to save money or have additional benefits if they enroll in efficient risk-

⁶ The initial experience with the Medicare Fee Schedule has been generally favorable (see Chapter 6). Beneficiary access does not appear to have been impaired despite sharp reductions in payments for some services and in some geographic areas. Physicians' aggregate volume response has been smaller than projected.

contracting plans. Many will point out, however, that each of these examples differs from the managed-competition model in important ways.⁷

Rate Setting

For rate setting, the potential for shortfall is in two areas: the ability of the political system to constrain payment rates substantially over the long term and the effectiveness of programs to slow the growth rate in service volume. Public decisions to set low rates are understandably difficult. Providers, their suppliers, and their employees are often well-organized to resist them. They have the potential to recruit consumers to their side by projecting dire consequences if rates were constrained further. When rates are established for revenues from all payers, those setting the rates may be blamed for events such as hospital closures. The American political system, in which interest groups play a larger role than in many Western democracies, may be less suited to effective rate setting than is the case in Canada and in Germany.

If rate setting is to be pursued, the design of health system reform and the structure of decisionmaking must be supportive. For example, making health care spending more visible to the public may be a key factor. Contrast Germany, in which all revenue for health insurance comes from a payroll tax with equal employer and employee contributions, with the current situation in the United States. Here, few employees are aware of how much their employer contributes to their health benefits, the degree to which their wage rates have been held down to finance these contributions, and how much lower their taxes are as a result of the exclusion of these contributions from income taxes. Use of enforceable spending targets that force rate reductions when the targets are exceeded can also increase the potential effectiveness of rate setting.

Even if rates are set tightly, the success of efforts to slow the increase in the quantity of services is uncertain. While practice guidelines are being developed with enthusiasm, it is not clear how large a departure from current practices they will prescribe and the extent to which physicians will change their practices. Indeed, some guidelines will call for additional care beyond what is currently the norm. Physicians are justifiably concerned about the hassles involved in some utilization review and cost-management efforts, raising questions about the potential for increased use of such tools. Much of the infrastructure to support changes in physician practice depends on public funding, which might not be forthcoming on a regular, predictable basis.

The degree of constraint on capacity of either physicians or facilities and equipment that can be achieved in the United States is uncertain. Although the federal government can have a substantial impact on graduate medical education, the undergraduate medical education

⁷ The President of the CalPERS board recently wrote to Representative Pete Stark to clarify that he did not consider CalPERS to be an example of managed competition.

pipeline is more difficult to control. In any case, major changes in training policies would take many years to significantly affect the stock of physicians. Even though some states have continued to conduct certificate-of-need reviews of hospital and nursing home construction despite termination of federal mandates to do so, few anticipate controls on capacity as strong as those in place in Canada and Germany.

Steps to make it less attractive to invest in facilities are a more promising tool to prevent excess capacity. With rate setting, it is less likely that facilities with low rates of capacity utilization would be constructed. Stricter limits on physician self-referral would also reduce incentives to construct facilities with excess capacity. In addition, an effective program of technology assessment could also limit capacity to deliver those technologies that are not effective.

Managed Competition

For managed competition, the uncertainties include whether a market can be structured in which health plans compete vigorously on quality and price and, if this is achieved, whether consumers will generally choose among the lower-priced plans. Structuring the type of market envisioned by proponents of managed competition depends on substantial progress in data collection, quality measurement, and risk measurement. This will take considerable time and resources. While there is optimism among managed-competition advocates that cost-containment and quality goals will ultimately be achieved, the ability of this approach to manifest savings quickly without sacrificing quality is questioned.

The term managed competition may not indicate the degree of oversight necessary to set up a functional market for health services. This includes extensive reporting requirements for health plans, control over marketing practices, and a standard benefit package. One risk is that oversight would not be vigorous enough to preclude health plans that do not provide adequate data or that market in ways that are deceptive or designed to attract healthy enrollees. As a public program, Medicare has been much more constrained than private employers in eliminating poorly performing HMOs from the array of plans offered. For local boards to be effective in discouraging substandard plans, they might need to be given the authority to choose a limited number of plans on the basis of competitive proposals rather than certify all plans meeting minimum requirements. In this way, health plans would have to demonstrate strengths, in contrast to the boards having to document weaknesses.

Success in structuring the type of competitive market envisioned by proponents might not result in sufficient cost containment. Although estimates have been made about the savings accomplished by some HMOs, one can only speculate about how much progress in containing costs through improving medical practice can be expected from organized systems of care once more competitive pressure is brought to bear. In addition, it is not clear how much of the pressure from a more functional market will focus on cost containment versus ready access to the latest technology. Some fear a medical arms race, with many consumers

reluctant to accept a perceived restriction in their access to this technology even if the additional premium might require substantial financial sacrifices. Such a situation could lead to a degree of tiering in medical care that many would find unacceptable.

COMBINING THE RATE-SETTING AND MANAGED-COMPETITION STRATEGIES

The risks that either of these strategies might achieve much less in cost containment and quality enhancement than is envisioned in their respective theories have led some, especially this Commission, to explore ways in which elements of each can be combined. Judicious combinations not only could limit the impact of possible failure of a single approach but also could leave the system better prepared to emphasize the more successful approach. Combinations also open the potential for different emphasis in different locations. This could expand the base of support for cost containment.

Starting from the rate-setting strategy, one might take steps to ensure that organized systems of care, such as HMOs, are not substantially hindered by rate setting. For example, HMOs often contract with physicians and hospitals on bases other than fee for service or diagnosis-related groups (DRGs). They often capitate primary care physicians and pool a portion of the fee-for-service payment for specialists. Hospital contracting is often on the basis of a per diem rate, since length of stay is under the control of the HMO physicians.

Allowing HMOs to contract with providers in ways that differ from how rates are set could be accomplished by making the rate setting optional either for all payers or only for a defined category of organized systems of care. For example, under Medicare, HMOs with risk contracts have a choice of purchasing hospital care through the Medicare fiscal intermediary — at Medicare DRG rates — or directly from the hospital at a contracted rate. If rates were optional only for certain categories of health plans, these categories would have to be defined. Alternatively, the option could be provided for any plan that pays providers in a certain way. For example, plans paying primary care physicians for their own services on a capitation basis or paying a portion of fees on the basis of the experience of a pool of physicians would not be required to demonstrate that the rate was equivalent to specified fee-for-service rates.

Exempting HMOs from rate-setting limitations could support reaching the nation's cost-containment goals. If cost containment through rate setting and utilization management by insurers proves to be onerous to providers, they could move to the HMO sector. Ultimately, the size of each sector should depend on its relative success in containing costs and the acceptability of the respective methods to providers and consumers.

A decision would have to be made on how to treat HMOs in the context of national expenditure limits. Under one scenario, spending would be monitored only for those not enrolled in HMOs. HMO success (or lack of it) in containing costs would not affect decisions

on rate updates for the fee-for-service sector. Of course, HMOs would be affected by rate updates since these would affect premiums of the insurers with which they are competing. Significant restraint on fee-for-service rates would place pressure on HMOs.

Under another scenario, HMO premiums would be counted under the expenditure limit, so that HMOs' success in containing costs would ease the need to constrain fee-for-service rates whereas lack of success would increase it. Regulation of HMO premiums might be included under this scenario.

Many other elements of the managed-competition strategy could be added to the rate-setting strategy. Restructuring the health insurance market through either the active or passive model of local boards, for example, could be incorporated into the rate-setting strategy. This could save administrative costs as well. To the degree that the restructuring of the health insurance market succeeded, both organized systems of care and more traditional insurance plans would face increased competitive pressure for cost containment and might perform better.

This combination of managed competition with rate setting could be seen as the evolving application of available cost-containment technology. Knowledge of how to set rates is available now (drawing extensively on the Medicare experience), whereas mechanisms to make medical practice more effective and efficient are at an earlier stage of development. Moreover, changes in the delivery system in response to additional knowledge about effectiveness and organizational structure will take time. If organized systems of care live up to their promise, the proportion of the population enrolled in traditional insurance plans gradually would decline.

In the same sense that adding managed competition to rate setting might reduce the risk of not achieving sufficient cost containment, adding premium regulation to either a combined system or to a pure managed-competition system could lower the risk further. Premium regulation could address the possibility that restructured insurance markets would not develop enough pressure on health plans to contain costs. The need to keep premiums down could alter the priorities of plan managers.

Unfortunately, little experience in premium regulation is available as a guide. State insurance commissioners have regulated premiums for some time, but the focus has been on the ratio of premiums to benefits, not on whether benefit costs are too high. In any case, the regulation conceived by some managed-competition advocates would not pass through existing levels of benefit payments since its purpose is to prod plans to economize on health care as well as administrative costs.

Development of viable options for premium regulation must address a number of issues. One is whether risk-adjustment methods can be feasibly applied so that the effects of risk selection in premium payments is held to an acceptable minimum. Another issue is whether regulation of premium levels will compress the range of premiums charged by plans and, if

so, whether that is desirable. Still another concerns the degree to which rate setting used by fee-for-service plans can be calibrated to be consistent with premium regulation applied to all plans.

The Commission plans to continue its analysis and discussions of approaches to cost containment and quality assurance in health system reform. It looks forward to the submission of the Clinton Administration's proposals to the Congress and to advising the Congress during the legislative process.

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DEVELOPING A NATIONAL DATA SYSTEM

One key to the success of health system reform, however designed, is the development of data systems. The Commission is making several recommendations that constitute a strategy for developing a national data system that would support the needs of reform. Last year, the Commission's *Annual Report to Congress 1992* included a chapter that described the principal objectives of an integrated data system and an approach to improve data availability to meet these objectives. It also took up such issues as determining the core data elements that would be part of establishing a national database (PPRC 1992a). This year's chapter builds on that work.

Although the need to create a national data system is broader than the debate over health system reform, most observers believe that legislative action on data systems will occur in the context of this debate. As a result, this chapter gives considerable attention to the data requirements that would be imposed by reform strategies such as rate setting and managed competition, as well as to the ability of current and proposed data systems to meet those requirements. Even though the data needs of these two approaches are quite distinct, the Commission has sought to develop a strategy that responds to both.

RECOMMENDATIONS

The Congress should enact legislation to create a national data system. Such a data system would draw on the Medicare model by using regional boards or carriers to collect raw data from individual plans and third-party payers. These boards or carriers would verify the accuracy and comparability of the data and aggregate summary information to be used by the local community and the federal government for various monitoring, quality improvement, and regulatory functions. A federal agency or board would establish basic data standards and oversee implementation of the system.

The federal government should support development of improved quality measures, including those based on outcomes of care and enrollee satisfaction. In the short term, priority should be given to identifying proxies that can be used as quality measures.

The federal government should support development of improved risk measurement, especially those measures that can be based on readily available proxies.

In some cases, the capabilities of current data systems to meet the requirements of reform are quite substantial. The Medicare claims system, for example, supports most needed summaries of utilization and costs for physician and hospital services as well as sophisticated analyses of access to care for vulnerable populations. Monitoring costs and utilization for categories of services such as prescription drugs that are not paid for by Medicare may, however, require further work.

Other data systems would need considerable improvement to support basic analytical needs. The Federal Employees Health Benefits Program (FEHBP) and most private insurers cannot even identify how many dependents are covered, let alone track the costs and utilization of services provided to dependents. Employers have traditionally not demanded much information from their insurers; thus many insurers' data systems may support little more than payment of claims. Private-sector claims systems do not consistently use standardized data elements or coding procedures, although the Workgroup on Electronic Data Interchange (WEDI) and others are taking steps to move in that direction.

In some areas, the potential for making major strides is considerable. With a relatively small investment, a national database of inpatient hospital stays could be created from existing state hospital discharge abstract data sets and Medicare records. This database could then support various analyses of access and quality of care. By contrast, a national database of outpatient episodes of care would be a far more formidable task.

On the quality side, the track record is limited, but important steps have been taken. A number of managed-care organizations are using sophisticated measurement instruments that have been developed in such areas as patient satisfaction and use of preventive services. In January 1993, a group of health care organizations and purchasers, in conjunction with the National Committee on Quality Assurance (NCQA), announced its intention to support creation of a national data-collection system that would allow the comparison of health plans on the quality of their care.

If better measurement capabilities (especially for quality of care) are to be achieved, the challenges to policymakers and the research community are several. The first is to decide what should be measured. Another is to improve existing claims data by such steps as standardizing data elements and incorporating improved diagnosis codes. A third is to target clearly what variables should be measured to avoid amassing more data than the system can use and to limit the burdens placed on providers and plans. For example, as the relatively short list of conditions for which relevant outcome measures have been identified is expanded, claims or administrative data may already exist to measure them.

In setting forth the Commission's strategy for meeting the data needs of health system reform, it is important to consider that the design of a data system should not be limited by the content of claims data and that surveys and clinical abstracts may play a critical role. These approaches to measurement will be important for ensuring that data requirements are compatible with shifts in health care delivery toward organized systems of care. Further, it must be emphasized that this data strategy is an iterative process, where short-term needs

might be met with summary data but where steps toward greater data capabilities should be taken consistent with a longer-term strategy.

The Commission's recommendation on quality measurement is critical to establish accountability for both plans and individual providers, regardless of how health system reform is structured. Although existing data can provide a foundation for measuring quality, the federal government should proceed at once with efforts to build on that base to develop new instruments for measuring quality and plan performance. Collecting information on symptoms for chronic-care patients, for example, may become as important as recording diagnoses for acute-care patients. Similarly, the ability to follow treatment patterns over time for patients with specific conditions may eventually be seen as equal in significance to tracking variations in the use of particular surgical procedures.

Finally, risk measurement is important in any system where consumers are permitted choices of plans or providers. The Commission believes that the federal government should study the feasibility of measuring risk based on demographic data and self-reported health status at the same time that it supports research on other approaches to risk measurement. In particular, research should consider how enrollment data (especially under managed competition) could provide a database for developing risk adjusters.

Over time, an investment of resources may be necessary to meet the system's ultimate goals of valid and reliable standardized measures of costs, utilization, quality, and risk. Although good proxies are available to meet many of the immediate requirements of health system reform, it is important that policy initiatives recognize the limitations in data and analytical capabilities as well as take steps to improve these capabilities.

The chapter begins with a discussion of the requirements for utilization and quality data imposed by different approaches to reform. After a review of the capabilities of current data systems to meet these requirements, an examination that is supplemented in Appendix A, the chapter looks at alternative models for a national data system. Finally, the chapter outlines the Commission's strategy for developing a national data system, including specific steps to implement this overall strategy. It also examines how well this strategy would get the system up and running to serve the immediate needs of reform, while moving the system in the direction of its long-term goals.

REQUIREMENTS FOR A DATA SYSTEM

The starting point for a strategy to develop a national data system is to lay out its basic requirements. Some span the variety of approaches to reform. Others become more salient under certain approaches. The section begins with general specifications for ensuring that data are usable and then considers data requirements to support various functions of the health system. These functions include monitoring utilization and costs and monitoring

quality of care, each of which is central to a particular reform approach. The section also lays out requirements for establishing accountability for quality and access and for supporting outcomes research and profiling, functions which are broader than any one reform scenario. Finally, the section addresses requirements for measuring risk, particularly critical under managed competition.

General Data Requirements

The specifications for a national data system begin with certain fundamental requirements that must be a part of any system to ensure that data are usable. These include uniform and relevant indicators, standardized definitions, verifiable and accurate data, timely data, multiple sources of data, and confidentiality.

Uniform and Relevant Indicators. Last year, the Commission outlined the core data elements of a national database (PPRC 1992a). Similar recommendations for standardizing core data elements have been made by a variety of groups, including the WEDI project. The basic elements include:

- costs (e.g., submitted charges, paid amounts);
- service use (e.g., type of service, place of service);
- quality (e.g., measures of outcomes, patient satisfaction);
- patient or enrollee characteristics (e.g., demographic measures, health status measures, diagnoses); and
- provider characteristics (e.g., specialty).

Many of these elements are important for routine claims processing, but they also support other needs for policymakers and clinical researchers (Weiner et al. 1990).

Standardized Definitions. A consistent problem identified by all who have studied national data systems is the need for standardized definitions for these core data elements. Standard definitions are also needed for a wider variety of cost and quality indicators. Standardization has the potential to help reduce administrative costs if each insurer does not develop its own forms and definitions and to help reduce the hassle factor for providers who now face a plethora of forms.

Some standards have gained general acceptance. Medicare's billing forms — HCFA-1450 (better known as UB-82) for hospital services and HCFA-1500 for physician services — are generally recognized as standards, although not universally adopted (some payers use these forms but require additional information). Current Procedural Terminology (CPT) codes for

classifying services are now used by all Blue Cross Blue Shield plans and roughly 85 percent of commercial insurers.¹ The National Drug Code, managed by the Food and Drug Administration, is used by most insurers for pharmacy claims.²

Other standards are far less broadly in use. Unique provider identifiers have been recently incorporated by the Medicare claims systems, but their use is not widespread in the private sector. Unique patient identifiers are even less commonly used outside of the Medicare program. Diagnosis coding is particularly challenging, given its subjective nature and the difficulties inherent in the current International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) coding system.³

Several groups have been active in supporting the move toward standardization. The Workgroup on Electronic Data Interchange, created in 1991 to bring together a coalition of major public and private payers, has been working not only on the electronic transmission of claims data, but also on standardized data formats, data elements, and confidentiality legislation. It has recommended that all its participating plans commit to using standard data formats for claims submission by 1995. Developed by the American National Standards Institute's Accredited Standards Committee X12, these formats incorporate data elements from the UB-82 and HCFA-1500 forms (WEDI 1992).

For hospitals and other institutional providers, the UB-92 form has been developed by the National Uniform Billing Committee for use starting in October 1993 in both paper and electronic formats. The committee, which includes both payers and providers, has improved on the UB-82 form by expanding the number of diagnosis and procedure codes, including more information on severity of illness and comorbidities, and adding codes for external cause of injury. For professional and community-based providers, the Uniform Claim Form Task Force is an ad hoc group that reviews the HCFA-1500 form, but there have been no recent actions to reevaluate this form.

Verifiable, Accurate, and Comparable Data. A central need that spans all approaches to structuring the health care system is verifiable and accurate data that cover all patients and all providers, regardless of which payers or plans may be currently responsible for collecting these data. Data accuracy means a low rate of random errors, an assurance that all needed data are collected, and an avoidance of bias in recording data. Some practitioners, for example, may file claims in such a way as to avoid benefit restrictions imposed by insurers

¹ Standardization often needs to go beyond adoption of standard codes. The inconsistent use of evaluation and management codes by different Medicare carriers could not persist under the Medicare Fee Schedule (see Chapter 6).

² The use of standard forms and coding systems is less consistent among managed-care organizations, which do not need them for billing purposes, than among insurers.

³ A number of problems have been identified with ICD-9-CM diagnosis coding, including imprecise codes, the lack of specification of the surgical approach, and coding conventions that lead to miscoding (McMahon and Smits 1986; Romano and Luft 1992; Mitchell 1992).

(Brand et al. 1992). To the extent that data are collected and maintained in private systems, some means must be available to verify the accuracy of the information.⁴ Similarly, data must be comparable, regardless of the means by which they are collected.

Timely Data. The availability of timely data is more important to policymakers seeking to make decisions based on data than, for example, to clinical researchers. When data are used to set a payment rate or to determine whether a plan is certified for offering through a local board, the consequences of using old data are potentially serious. Under the previous Medicare claims system (the Part B Medicare Annual Data files), for example, there was often a significant lag between when a physician delivered a service and when detailed claims records became available to policy analysts. Similarly, whereas retrospective methods of data collection such as chart reviews can be valuable for measuring some aspects of plan performance, they may be too slow for some policy uses (Kraus 1992).

Multiple Sources of Data. Most existing payers, other than some health maintenance organizations (HMOs), use claims data as the basis for their administrative data systems in part because they need these data to pay providers. Although claims data have many advantages, they impose certain biases. Claims data measure only encounters between providers and patients. If no such encounter occurs, the event is not measured. Thus, an untreated illness or an immunization not obtained will not show up in claims data. In addition, some encounters are not submitted as claims, because they are not explicitly or separately paid. Routine office visits or immunizations, for example, may not be covered under a fee-for-service plan, and postsurgical visits may be included in a global surgery payment. Such encounters will not be included on claim forms.

In general, claims data are not effective for assessing such things as the health status or the health needs of a population group. Supplementing claims data with data collected through surveys or other methodologies can broaden the information on an insured population. The surveys supported by the federal government, described in Appendix A, could provide a foundation for this approach to data collection. In addition, the experience of some HMOs in administering surveys of their enrollees might have broader implications as a way to look for gaps in access to care. Nonclaims data may also be important for quality improvement, especially if they can be linked to claims data. On the other hand, the experience in using nonclaims data is more limited than in the claims arena. Increased use would require substantial expansion of current survey instruments now used by the Health Care Financing Administration (HCFA), the National Center for Health Statistics (NCHS), the Agency for Health Care Policy and Research, and private-sector plans.

Confidentiality. Maintaining appropriate confidentiality for patients, providers, and plans is another critical underlying requirement for any national data system. There is an existing

⁴ Studies have found that over 80 percent of claims-derived data for some items can be validated with data from other sources (Weiner et al. 1990).

body of federal and state law that provides some confidentiality protection, most of which limits use of administrative and clinical patient records for research and other purposes. State laws, however, vary considerably; these variations add to the administrative costs of companies operating nationwide.⁵ Confidentiality concerns take on new dimensions when large databases are assembled with information on all patients and when electronic transmission of claims becomes more widespread.

The Medicare system has been successful in protecting confidentiality and might serve as a model for a larger data system (PPRC 1992a). HCFA, in complying with confidentiality provisions in several laws, has developed an elaborate set of procedures to protect the privacy and confidentiality of beneficiaries when data are released to other federal agencies, states, or private researchers. But while these laws and procedures seem to regulate HCFA's release of data effectively, legal protections in general are fragmented and often fail to cover electronic data. WEDI, among others, has called for federal legislation on confidentiality that would establish uniform requirements for preserving confidentiality and privacy rights in electronic claims processing and payment payment (WEDI 1992). These requirements, if enacted, would apply to all public and private third-party payers and all providers.

Requirements for Monitoring Utilization and Costs

Along with these general requirements, which would not vary substantially under different reform scenarios, specific reform proposals tend to prompt additional data requirements. Under any approach to health system reform that incorporates expenditure limits, a central requirement is that the federal government have the ability to track total spending in order to monitor compliance with limits and to form the basis for setting rates. Furthermore, depending on how a system of expenditure limits is structured, tracking would be needed for different categories of services. Most legislative proposals for rate setting establish categories at least for physicians' services, inpatient hospital services, and outpatient services. Some have gone further to specify other categories of services: diagnostic testing, home health, rehabilitation, durable medical equipment, prescription drugs, nursing facilities, and mental health.

Additional spending breakdowns may also be required. Proposals may call for a separate accounting of Medicare and non-Medicare spending or for spending by managed-care organizations. Furthermore, some proposals would require spending totals be established at both national and state levels (and perhaps, for smaller geographic entities).

Whereas spending totals are used today for informational purposes, the numbers would take on much greater importance in the context of enforceable expenditure limits. Under proposals that would achieve expenditure limits through rate setting, these numbers would have a direct

⁵ The National Association of Insurance Commissioners has a model law that has been adopted in 13 states. It does not, however, address use of electronic data interchange.

impact on how much various providers get paid. An inaccurate accounting could reward or penalize providers unfairly.

Developing spending totals is just one use of data required to implement a system of expenditure limits. Data systems would also need to support the analyses required to assign services to categories, to assess technological changes, and to anticipate or report delivery system changes that would reallocate services among categories. In addition, if premium regulation is incorporated as a tool for achieving expenditure limits, the government would be required to collect data on plan premiums — requiring in turn consistent definitions and possible adjustments for age, sex, and region.

Under other approaches to reform such as managed competition, an accounting of total spending is less central. But expenditure totals would still be important to assessing whether system goals are achieved. In such systems, however, the ability to provide a detailed accounting of national spending by categories is generally less important than a determination of total premiums paid throughout the system.⁶

Requirements for Monitoring Quality of Care

Under any approach to health system reform that involves use of managed competition, a central requirement would be the availability of adequate data on costs and quality to support both plan comparisons by consumers and practitioners and plan certification by the local board. Complete data, however, might not be needed in the early stages of a system's development. Various proxies may be available or could be developed to make such a system work. In addition, some of these data (e.g., plan characteristics) need not be part of a national data system, but would be collected and used solely by the local boards; other data (e.g., utilization rates) would likely be collected as part of a national system.

A central tenet of managed competition is enabling consumers to make informed choices among competing plans. To assist this choice, adequate data would be needed on plan characteristics and plan performance. These data should provide consumers the basis for comparing plans on their performance in meeting the clinical health requirements, functional needs, well-being, and personal satisfaction of their enrollees.

Under managed competition, physicians and other providers of care would also need to make informed choices among plans. More than in the current system, they would manage care in partnership with the plans to which they are affiliated and would be held accountable by their plans for the care they provide. As a result, adequate data would be needed on plan characteristics, especially specific approaches to managing care, to allow practitioners to make decisions on plan affiliations.

⁶ The establishment of a standard benefit package under managed competition, especially if copayments are standardized, would also ease the difficult task of monitoring out-of-pocket costs.

Some variants of managed competition would also assign an important regulatory role to the local boards. Adequate data would be needed to certify plans — both initially and over time — for participation in the system. These certification requirements would guarantee that a plan is capable of providing minimally acceptable care to its enrollees. Initial requirements might be structural; other measures (e.g., outcomes) might be added over time.

One significant difference between the data requirements of a system that relies mainly on rate setting and one that hinges more heavily on managed competition is that most data for the latter system would be collected at the plan level. Both economic incentives and accountability standards would be enforced on plans, not on individual providers. Basic cost indicators at the plan level might include total expenditures, volume and prices of procedures, and use of specialized centers of care, whereas basic quality indicators at the plan level might include enrollee satisfaction, process measures, and outcome measures (e.g., mortality, morbidity). One challenge would be determining how some of these measures would apply to indemnity plans, which traditionally may not know who their enrollees are until they submit claims.

Under approaches to reform that rely primarily on rate setting, plan comparison data may not be a specific concern for the government. Nevertheless, consumers, practitioners, and others would benefit from the development of better cost and quality data to evaluate both plans and individual providers.

Requirements for Establishing Accountability for Quality and Access

Regardless of whether health services are delivered primarily through managed-care organizations or through fee-for-service arrangements with providers, a pivotal governmental responsibility is holding plans or providers accountable for access to care and the quality of the services they deliver. This need is especially critical when stringent economic incentives are put in place to achieve system goals of cost containment. In particular, government has traditionally taken responsibility for monitoring the impact of policies on vulnerable populations, including those who are poor, those who are very old or very young, those who suffer from chronic physical or mental conditions, and those who live in underserved parts of the country.⁷

Data are important for tracking patterns of inappropriate utilization across all patient populations and especially for identifying gaps in access or quality for vulnerable populations. Specific monitoring concerns would tend to vary under different economic incentives.

Under a system such as managed competition, accountability would be established at the plan level, since plans take responsibility for the health of their enrollee population. In general, the

⁷ See Chapter 5 on the impact of the Medicare Fee Schedule on beneficiaries and Chapter 15 on monitoring access in the Medicaid program.

same data that are used to compare plans would be available for holding plans accountable for both access and quality. The government would most likely review these data, paying special attention to possible underservice, especially for vulnerable populations.

By contrast, under a system of rate setting, it may be inappropriate to hold plans accountable. To the extent that plans traditionally lack contractual relationships with providers, accountability for quality shifts to individual providers, as is the case under Medicare and Medicaid today. Furthermore, because neither plans nor providers are responsible for an enrolled population of consumers, the government is likely to play a key role in ensuring access to care. It would be expected to give special attention to whether services (especially for vulnerable populations) are inappropriately reduced or increased as fees are changed. This function would be informed by the experience of monitoring the impact of the Medicare Fee Schedule on beneficiaries.

Requirements for Supporting Outcomes Research and Profiling

Although the specific data requirements of health system reform mostly deal with counting total expenditures or measuring the quality of care delivered by plans, two other areas will be important to making reform a success. Both outcomes research and profiling are tools that help physicians make changes in practice patterns that will enable them to deliver care more effectively and efficiently. Data systems are an important component in these activities.

Profiling is an analytic tool that provides a means to compare practice patterns of providers on the dimensions of cost, service use, or quality of care. It is being used increasingly because of the growing availability of administrative and clinical data, its potential to educate physicians, and its promise as a substitute for individual case review. Profiling can be used to compare individual practitioners, groups of practitioners, institutions, or payers, or to examine the service use patterns of populations. Many of these applications for profiling are limited because sufficient observations are needed to make meaningful comparisons or because comprehensive data are needed from multiple sources. Realizing the potential of profiling will require common data standards and ways to reduce the barriers associated with combining data from many sources. Health data systems designed to address these issues would make it possible to conduct profiling on a community, state, regional, or national basis (PPRC 1992a).

In contrast to the provider or population orientation of profiling, outcomes and effectiveness research involves a focused examination of the process and outcomes of specific treatments. As such, it requires assimilating information from both administrative and clinical data sources. On the whole, effectiveness research requires targeted data collection to address the needs of any specific study. Ideally, administrative data sets that include clinical indicators such as diagnosis can provide an initial frame of reference for effectiveness research and serve as an important link to more detailed clinical data sources. Improved coordination of administrative and clinical data resources, achieved through a national data system with unique patient identifiers, could facilitate such efforts.

Requirements for Measuring Risk

Risk selection — the practice of avoiding unhealthy enrollees and seeking low-risk people — is used by some insurers and health plans to earn a surplus without necessarily managing care effectively. This practice can create barriers to access for consumers and inefficiency in the health insurance market. In general, risk adjustment is needed to deter plans from selecting or marketing to healthier enrollees, to protect plans from being selected by a costlier-than-average group of enrollees, and even to encourage plans to specialize in treating people with certain illnesses or conditions. Under managed competition, risk measurement would be a critical activity for local boards, which would have responsibility for collecting community-rated premiums from individuals and transferring a risk-adjusted premium to the plans. Where proposals would establish expenditure limits at the level of states or individual capitated plans, risk-adjusted limits might be needed for these entities.

DATA CAPABILITIES UNDER THE CURRENT SYSTEM

Before elaborating on the Commission's recommendations for development of data systems to support health system reform, it is important to understand the potential of the nation's current data systems. This section of the chapter indicates the capabilities of the current health system to meet the requirements outlined in the previous section. Appendix A provides a more detailed description, including (1) an overview of public and private systems for tracking costs and utilization of services; (2) a review of potential measures of quality and system performance for health plans, together with available data sources for them; and (3) a review of recent literature on risk measurement.

Monitoring Utilization and Costs

The success of the Medicare program in developing an increasingly advanced claims data system in recent years can offer important lessons for the development of a national data system. Whereas the Medicare claims system for physicians' services was previously based on 56 autonomous systems administered by local carriers, the implementation of the National Claims History (NCH) file system has brought about the consolidation of Medicare's hospital and physician payment records and has made 100 percent claims-level data available to HCFA on a timely basis. This system also provides a valuable model in the sense that some carrier reporting within the system is still based on crosswalking carrier-specific information to the standardized formats imposed by HCFA.

Other public-sector data systems pale compared with Medicare's. Medicaid data, while improving, still lacks uniformity across the states and cannot support any significant national data analysis (see Chapter 15). The federal government's program for its own employees is seeking at present merely to build a basic data system with demographic information on

employees and their dependents and summary utilization data. But the lack of uniformity among participating plans has limited the success of this effort.

Many states now collect hospital discharge abstracts using the Uniform Hospital Discharge Data Set standards developed by the federal government. These data could provide the basis for a nationwide information system on inpatient hospital stays, especially if combined with Medicare hospital data. A smaller number of states also collect data on procedures performed in ambulatory settings; very few, however, collect data on services delivered in the physician's office.⁸ Finally, important efforts are under way in a few states (e.g., Minnesota and Vermont) that have been at the forefront of the health system reform movement to create broader statewide databases. But even these states are mostly in the planning stages.

In the private sector, the picture is quite mixed. Most insurers have at least the basic elements of an automated data system in place and have adopted many of the standardized formats preferred by HCFA. Whereas some insurers have elaborate data systems that can support maintaining a fee schedule and monitoring utilization, others do little more than pay claims at the submitted charge level, not even insisting that providers code services properly. The Workgroup for Electronic Data Interchange has brought together many payers with an ambitious plan for standardizing claims data and automating transactions electronically by the end of 1995. This commitment, however, is quite ambitious and may require legislative incentives to achieve.

The data systems of HMOs differ, simply because they have historically had no need to maintain claims-based administrative data systems. Most plans do have management information systems that collect administrative data. The initiative by a consortium of large employers and HMOs to develop the HMO Employer Data and Information Set (HEDIS) has the potential to achieve a substantial degree of standardization in data collection for plans. Whereas some argue that plans should adopt some of the standard transaction forms (UB-82 and HCFA-1500), some HMOs believe that such a requirement would add substantially to their administrative costs without benefit to the plans. They suggest, as an alternative, that sampling techniques could be used to estimate utilization rates for certain procedures by plan physicians.

Finally, certain efforts initiated by the federal government move beyond claims files and offer other types of data to help measure costs and utilization. The national health accounts maintained by HCFA's Office of the Actuary provide data on total national health expenditures. These data, however, are difficult to disaggregate below the level of national totals. The Current Beneficiary Survey was initiated by HCFA to supplement Medicare claims records. Various surveys, such as the National Health Interview Survey, administered by the National Center for Health Statistics may provide a basis for looking at health care

⁸ The Uniform Ambulatory Care Data Set, developed by the federal government, provides a standard set of measures for the ambulatory care setting.

needs and utilization that is not dependent on encounters with a provider. Finally, the Uniform Clinical Data Set (UCDS) represents an attempt by HCFA to take information directly from medical records. Although the cost of abstraction is a significant obstacle to broader use of the UCDS, several projects currently under way may test its utility.

Monitoring Quality of Care

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Measuring the quality of care delivered in health plans and by individual providers is an important requirement for health system reform, especially under managed competition. Although quality measurement has had little use outside research settings until the past few years, its potential appears substantial.⁹ A particularly promising area is the development of a set of comparable performance measures, both those that can be derived from claims data to address specific clinical issues and those based on measures of satisfaction.

Considerable progress has been made in recent years in developing a set of performance measures that consider specific clinical areas. Research sponsored by the RAND HMO Consortium has identified a set of conditions where plans have a legitimate potential for influencing improved outcomes (Siu et al. 1992). A related approach is the creation of a quality report card for health plans, based on measures readily obtained through administrative data sets and enrollee surveys. The National Committee on Quality Assurance, the Managed Health Care Association, and several of the more innovative employers and managed-care plans have taken the lead in these efforts.

Enrollee satisfaction is another important approach to collecting data on plan performance. A survey instrument developed by the Group Health Association of America has become widely accepted within the industry; a modified version is currently being used by NCQA in an important evaluation of quality among nine HMOs in Michigan (Davies and Ware 1991; NCQA and McGee 1992).

MODELS FOR A NATIONAL DATA SYSTEM

This section of the chapter presents three alternative models for developing a national data system: the third-party payer model, which relies on data collected by insurers and other payers; the community model, which consolidates data collection into one community organization; and the government model, which shifts the responsibility for collecting data to the government. It describes each, together with its advantages and disadvantages in fulfilling the functions of the health system. Whereas these models focus primarily on how claims data are collected and processed, the organizing entity (whether third-party payer, community, or government) should also create a capability for integrating nonclaims data into its systems.

⁹ The Commission's analysis of quality measurement is based in part on an paper prepared for the Commission by Corrigan and O'Kane (1993).

The Third-Party Payer Model

In this model, payers maintain and control their own data systems, collecting information from patients and providers, much as they do today. They check that the data are clean, pay and monitor claims, and perform other necessary functions. Appropriate summary information is shared with a central clearinghouse for use by interested parties.¹⁰

The biggest advantage in adopting this model is that it would incur the lowest costs and the least disruption, because it would build directly on existing data systems. HMOs could work with existing administrative data systems (and the HEDIS instrument) to provide summaries. Under this system, individual third-party payers could also increase their competitive edge by developing improved data systems for quality improvement.

On the other hand, adoption of this model would create serious challenges for establishing external verifiability, given the strong vested interest payers would have in the uses made of summary information.¹¹ Comparability would also be a concern, especially for group-model and staff-model HMOs whose administrative data look very different from that found on fee-for-service claim forms. To the extent, however, that these HMOs are exempt from rate-setting requirements, they might need only to report total premiums charged or total spending on health services. Payers would also be limited in their ability to perform individual provider-level profiling to the extent that providers participate in multiple plans. Finally, uniform enforcement of confidentiality standards could be difficult with multiple data systems.

One important issue for the third-party payer model is whether summary data are adequate for those functions — monitoring expenditures, access, and quality — in which government would be involved. Administratively, it is far easier to collect summary data than complete data. Payers may be more willing and able to share summary data in a standard format. Thus determining cesarean section rates does not require fully standardized coding systems as long as the definition of the procedure itself is unambiguous. Establishing accuracy and comparability is made far easier if raw data (or a sample thereof) are made available to some sort of carrier or intermediary for purposes of verification. In addition, the ability to use techniques such as profiling may be limited unless summary data are aggregated at a very low level. The availability of raw data add to the potential uses of the database.

¹⁰ H.R. 200, introduced in the 103rd Congress by Representative Pete Stark, would create a national health expenditures reporting system. It varies somewhat from the third-party payer model, requiring providers to report information on provision of health care services; a role is provided for using surveys where needed to collect these data. The bill also calls for establishment of national databases on patient outcomes and on enrollee satisfaction with health benefit plans.

¹¹ Tracking expenditures through a system other than claims data might eliminate some of the biases generated if the third-party payer has a financial interest in what is reported into the data system.

The Community Model

Under this model, community-level clearinghouses are established as the primary agencies responsible for collecting data. The clearinghouse collects data directly from patients and providers and checks that the data are clean and accurate. It then provides individual payers with the information they need to pay providers and monitor their use of services. It also provides summary information to the government and other interested parties for use in overseeing the system or promoting changes in practice patterns. Most likely for the purposes of this model, communities would be defined geographically at the level of a metropolitan area or state. Should health reform involve the creation of local boards, the designated region might provide a logical basis for defining communities.

Development of the community model has been aided by the Community Health Management Information System (CHMIS), a project under the sponsorship of the John A. Hartford Foundation. The foundation, in collaboration with local businesses, is sponsoring a series of community-level programs to integrate health payment systems. The CHMIS programs include two components. One is a transaction system designed to simplify claims processing and coverage verification. Individual providers use a uniform report form that is submitted electronically to a central processor where it is reformatted, verified, and directed to the appropriate payer. The second component is a data repository maintained by the community that enables the use of the information to assist both in cost-containment activities and in the management of care. The repository includes information extracted from individual claim records and would result in a patient-based information system that encompasses all local payers and providers. The foundation has thus far made grants for CHMIS projects in six areas: the states of Iowa, New York, Ohio, Vermont, and Washington, and the community of Memphis. Several of these projects will be receiving proposals from vendors this year (John A. Hartford Foundation 1992).

Under the community model, accuracy and comparability are made substantially easier, because data for all plans would be in identical form, and the community is responsible for ensuring standardization. Summary information for plan comparison would already be in the form needed by most purchasers. In addition, the data would be highly compatible with strategies aimed at addressing the health care needs of defined populations of patients and with strategies aimed at addressing variations among providers in a community. The community could enforce confidentiality standards with the participation of all parties.

Establishing community-based data systems would be difficult as a short-term strategy, because it would involve considerable start-up costs and disruption of existing systems. Some plans may also be concerned about loss of their competitive edge if they lose control of their data. Providers may also be concerned about the collection and potential distribution of data on their entire practices. The experiences of the CHMIS over the next few years will be a valuable test of the potential of this model.

The Government Model

In this model, the government establishes clearinghouses on a regional basis, probably through carriers (either existing Medicare carriers or newly designated entities). The clearinghouse collects data directly from patients and providers and checks that the data are clean. As in the community model, it provides necessary payment and monitoring information to individual payers and provides data summaries to interested parties. It differs from the community model in that the data clearinghouses would be arms of the federal government rather than entities controlled at the local or state level.

As with the community model, accuracy and comparability would be easy to establish. Similarly, aggregate expenditures and plan comparison information would be easily obtained. Some would argue that the government's track record in Medicare provides a good starting point, especially in areas such as protecting confidentiality, although others are concerned that federal control of data creates greater threats to confidentiality than community-level control.

This approach may, however, be politically infeasible, since payers may be reluctant to turn over data to government control. Although the Medicare system provides a good model, a single national database (even if implemented on a regional level with carriers) is a far larger undertaking than Medicare's database. This option would also be a costly one in the short term, since it would require a substantial broadening of the federal government's role in data collection.

A STRATEGY FOR A NATIONAL DATA SYSTEM

An ideal system would likely combine elements of all the models outlined above. The community and government models appear to have the greatest capacity to support the functions of monitoring expenditures and comparing plans and providers. The third-party payer model, on the other hand, offers the opportunity to build on existing data systems that currently serve the needs of those payers. Alternative data sources are also important to enrich the capabilities of existing claims-based systems. This section evaluates the Medicare data system as a model and then lays out the Commission's strategy for developing a national data system, building in part on that model. It also gives specific attention to how this strategy can serve the needs of a health system reform approach that incorporates expenditure limits and rate setting. The section then presents the Commission's strategy for quality measurement and its ability to meet the needs of managed competition. Finally, it discusses the Commission's strategy for developing methods of risk measurement.

Learning from the Medicare Model

The Medicare data system may provide a good model for a national data system, given its track record of providing cost and utilization data. It has overcome many of the hurdles that

would face a national data system, such as ensuring standardization and comparability of data.

Medicare has provided leadership in adopting standard billing forms and collecting certain critical data elements in a uniform way, most notably, CPT codes. The Medicare system also illustrates how standardization can be imposed after collection of raw data. Thus, in the short term, a national database does not require that data be collected in a uniform format. Although there is considerable variation within the Medicare system in the actual underlying format of the data, it is typically possible for a claims processing organization to reformat its claims to a common format to some degree. Items as complex as physician specialty or even the identification of individual physicians can be handled through crosswalks from idiosyncratic claims processing systems to a uniform format.

In the longer term, it may be desirable, as Medicare has done, to move in the direction of increased standardization of data elements and instruments. Analysis of Medicare data by the Commission has demonstrated substantial capabilities for tracking total spending and utilization and disaggregating these totals by geographic area, specialty, or procedure. The Medicare claims system has also supported substantial analyses of access to care and, more indirectly, quality of care. The Commission, for example, has analyzed data at the ZIP code level to examine the effects of such factors as income or residence in a Health Professional Shortage Area (PPRC 1992b).

The introduction of Medicare's Current Beneficiary Survey may also provide a model for incorporating nonclaims data into a data system.¹² The availability of added information on access, health status, and utilization of health services from this survey provides a valuable supplement for analyses of access to care.

A Model for a National Data System

In the Commission's view, a variant on the third-party payer model may meet most of the requirements imposed by health system reform on a national data system. Under this model, third-party payers and plans would continue to maintain and control their own data systems, collecting information from patients and providers. A set of local data organizations (or carriers) would serve as the principal data repositories for the system. A federal data agency or board would have responsibility for setting standards both for data elements and for confidentiality, for overseeing the local data organizations, and for analyzing summary data sent to it from the local level.

This model creates a basic flow of information from plans to the local data organization to the federal data agency, but without the need to create the type of single national database

¹² The Medicare Beneficiary Health Status Registry, currently being pilot tested by HCFA, provides an additional potential expansion of Medicare's nonclaims data capabilities (see Appendix A).

that could easily become unmanageable. Individual plans would share their raw data (or possibly a sample thereof) with the local data organization. The local organization would then verify the accuracy and comparability of the data from the individual plans or payers. It would also aggregate summary information for use by those in the community who seek to influence the delivery of services and by federal managers who have responsibilities for oversight and (if appropriate) for monitoring systemwide expenditures and setting systemwide payment rates.

In moving forward with this strategy for a national data system, the Commission is also identifying for the Congress specific steps that could be addressed in legislation or made the responsibility of the federal data agency to move toward creation of a national database. As part of legislation to create a national data system, the Congress should:

- grant the federal data agency the authority to oversee creation and implementation of a national data system, with specific responsibilities for setting forth data standards and with adequate funding for both initial implementation of the system and ongoing oversight of it;
- direct the federal data agency to establish basic data standards for all payers and a general process for setting other standards;
- establish basic principles of confidentiality that would protect the privacy rights of patients, providers, and payers, including protocols to establish secure storage and transmission of electronic data and to ensure a proper balance between required disclosures, appropriate use of data, and privacy; and
- direct the federal data agency to establish a system of local data organizations as the entities for implementing the data system.

The federal data agency could take the form of a new agency created expressly for that purpose, or its responsibilities could be assigned to an existing federal agency. Under some reform approaches, it might report directly to a newly created national health board. Regardless of its structure, the Commission believes that its immediate priorities in implementing the national data system would include:

- coordinating with existing efforts (such as WEDI) toward data standardization;
- directing local data organizations to collect standardized data summaries (e.g., total volume of physicians' services or utilization rates for certain procedures) and determining how well such summaries could serve the short-term needs of policymakers;

- testing the national data system by directing local data organizations to collect samples of data from large insurers and HMOs;
- testing the compatibility of databases administered by managed-care organizations that do not use standard encounter forms with databases used by traditional insurers;
- determining the ability of local data organizations to combine data samples from individual plans into a single database and identifying areas where these local data organizations can aggregate data even if data elements are not yet collected in a standard format;
- identifying areas, such as state hospital discharge abstract data sets, where existing data resources (other than claims files) can be used to build a national database, and working with all states to collect these data;
- exploring the feasibility of expanded clinical data collection in ambulatory settings; and
- overseeing the activities of the local data organizations, both verifying the general quality, accuracy, and comparability of the data and assuring that data summaries they produce for policy purposes are accurate.

It is important to emphasize the iterative nature of this data strategy. Some of the steps are designed to allow the data system to meet the needs of policymakers in the short term, without imposing unrealistic expectations on either plans or the government. Over time, plans would be expected to adapt their data systems to the new federal standards, and the local data organizations would develop the capacity to aggregate these different databases into a single database for their region. This iterative process would also provide time to determine how best to integrate the data systems maintained by managed-care plans with those of traditional insurers. It would allow policymakers to determine with greater precision what information is needed from the national data system to implement health system reform.

It is equally important to stress the importance of using multiple data sources. Even if a data system is based on administrative data (such as claim or encounter forms), the local data organizations and the individual plans would likely need to obtain supplemental information from condition-specific encounter forms, medical records, surveys of patients and practitioners, and other nonclaims data. Many of these data would focus on quality rather than on costs and utilization.

Local Data Organizations. One important question is the structure of the local data organization and the level of community at which data collection should occur. If states are assigned a central role for implementing health system reform, then it might be appropriate to

create the data organizations at the state level. Federal policymakers may prefer not to give state governments authority over data systems to reduce the risk of uneven implementation. The data organizations would more likely be created on a contractual basis with the federal government. In some larger states, it may be necessary to create more than one substate regional data authority.

Alternatively, if health system reform involves creation of local boards, the regions used as a basis for these boards might be a logical basis for data collection. The local boards that serve as purchasing cooperatives under managed competition should not serve as the data organizations because they would likely not represent all employers. Data organizations might, however, be created for the same regions. Finally, some have argued that existing Medicare carriers or the regional hubs created to implement Medicare's NCH system could serve as the local data organizations.¹³

Maintaining data files at the state or substate level avoids the problem of creating unmanageably large databases that cannot be analyzed easily with existing technology. On the other hand, this devolution of authority to the state or substate level creates the risk, even if implemented through a system of federally contracted carriers, of uneven implementation around the country unless adequate funding and incentives are included to ensure that local data organizations have a vested interest in making the system work.

Data Standards. The federal government would presumably set basic data standards, such as data elements to be collected and general confidentiality standards; these were discussed in more detail earlier in the chapter. Standardization of private-sector data would appear to be a formidable task, given the varying capabilities of insurers. Nevertheless, many large payers have already adopted many of the standards, and the WEDI initiative may help more payers move in this direction. It is apparent, however, that managed-care plans would need to establish — through efforts such as HEDIS — certain minimum data collection capabilities and conventions to participate in a national data system. Toward this end, it is recommended that efforts be made immediately to define uniform formats applicable to hospital episodes, ambulatory encounters, and health plan enrollment.

Meeting the Data Needs of Expenditure Limits and Rate Setting. Whereas the Commission's recommendations look primarily at a long-range strategy for developing a national data system, those policymakers focusing on health system reform must answer more immediate questions about the short-term data needs of a reformed health system. Under a reform strategy that incorporates expenditure limits achieved through rate setting, policymakers will need to move quickly both to establish initial rates for private payers and to monitor expenditures to determine whether targets are achieved. Establishing rates imposes less stringent data requirements than does monitoring changes in spending. In

¹³ Under the NCH system, local carriers process claims through nine regional hubs, which validate claims, accumulate a claims history, and authorize payment (see Appendix A for more details on the NCH system).

general, cost and utilization data are the primary immediate need under this reform approach; quality data for a system of accountability could be brought on line as they become available.

For hospital rates, basic diagnosis-related group (DRG) classifications were derived from data for all patients, but the relative weights assigned to each DRG are based on charge data for only Medicare cases. Applying this methodology to private payers would mean calculating new weights either for the general population or specifically for the non-Medicare population. These calculations would necessitate both charge data for non-Medicare patients and information that would permit the classification of these patients into DRGs. It may be possible to use weights recently developed for New York's hospital rate-setting system to make these estimates.

Depending on the design of the system, the use of Medicare's hospital payment rates in the private sector might require additional adjustments to be calculated for the cost of uncompensated care, graduate medical education, or capital costs. In 1992 the Prospective Payment Assessment Commission (ProPAC) discussed the need for hospitals to submit uniform claims and uniform cost reports. Although many of the components of such a reporting system are in place, ProPAC concluded that "substantial lead time and staff resources" would be necessary for hospitals to respond fully (ProPAC 1992).

In the physician sector, Medicare's assignment of relative values to services was based on data for a population of all ages, so that these values would not require adjustment. Values, however, would have to be assigned to services such as well-baby visits and other preventive services not covered by Medicare.¹⁴ The critical decision then is the determination of the conversion factor. Although the conversion factor would likely be a policy decision, a conversion factor that is budget-neutral for the private sector (i.e., one that redistributes payments among physicians and among payers) would probably serve as a baseline for policymakers. Currently available data for a nonrandom sample of private payers may be adequate for determining the private-sector budget-neutral conversion factor (PPRC 1992c).¹⁵

Monitoring expenditures to assess whether targets are achieved, however, will be more difficult to estimate for the private sector, because an estimate of changes in total volume requires reliable data from all payers.¹⁶ Although a sample of payers could be used to make a rough estimate of changes in total expenditures, the comparison of actual volume for a year

¹⁴ Most services delivered to the nonelderly population, including obstetrical services and most pediatric services, already have relative values assigned in the Medicare Fee Schedule.

¹⁵ The Commission has made such estimates from a limited sample of data. The Commission will reexamine these estimates with additional private-sector data during the next few months.

¹⁶ As described in Appendix A, HCFA's national health accounts data include only total spending, based on net revenues, not total volume of services.

with a target would be subject to error if there were a net shift of enrollees from the sampled insurers to those not in the sample. Volume estimates per enrollee could be used, although many private payers do not know precisely how many people they insure.

Volume estimates could be facilitated at first by requiring all payers to submit data summaries that show their total spending for physicians' services (with any breakdown by geographic entity or type of service that would be necessary for policy purposes). Some payers lack the internal data systems to supply these data accurately at present but could be required to produce these data summaries within a year or two. Payers could also be required to open their methodologies for obtaining these summaries to audit by the government or some external organization.

At the same time, private payers could be required to initiate standardization of their data capabilities, in line with the current Medicare claims system and the Commission's recommendations for a national system. Universal adoption of standard forms and data elements could make the required data summaries considerably more accurate in a relatively short time frame.

In the longer term, the establishment of a national data system, as the Commission is recommending, would vastly improve the government's ability to set DRG rates, conversion factors, and volume targets accurately and to track with some precision the extent to which physicians, hospitals, and other providers are meeting their targets. Such a data system would also enhance the government's capability for monitoring access and quality.

A Strategy for Developing Methods to Measure Quality

In the short term, the Commission's strategy for quality measurement would rely on assessments of quality that are based primarily on structure and process measures (such as physician credentials), performance measures, and surveys of enrollee satisfaction. A number of available performance measures (e.g. cesarean section rate, pediatric asthma admission rate, mammography rate) can be derived from administrative data that most plans have available. Enrollee satisfaction questionnaires would also be an important approach to measuring quality. Although consumers may lack the knowledge base to judge the technical quality of care, many believe that consumers can provide valid assessments of quality (Davies and Ware 1988).

Performance measures should include a well-balanced set of measures reflecting various aspects of patient care and service and should consider both medical care processes and the outcomes of care. In addition, measures should rely on multiple data sources and should be adaptable over time as circumstances change. An extensive project is under way in Michigan involving nine HMOs, three auto companies, and the United Auto Workers — overseen by the National Committee on Quality Assurance — to test the validity of using a menu of performance measures to assess quality.

Performance measures are especially appropriate for assessing the care delivered by managed-care plans, since plans take responsibility for the health of their enrollee population. In fee-for-service plans, however, monitoring and accountability have typically been assessed at the individual provider level. As a result, performance measures can be difficult to apply. A significant policy question is the extent to which indemnity plans should be held accountable for quality. Even if they are not held accountable, they could be required to gather information on quality.

A particular concern is that, if both managed health care plans and indemnity arrangements are to exist side by side, it may be difficult to fashion a single oversight process that affords ample protection to consumers. On the other hand, having different oversight processes clearly leads to the potential for an uneven playing field, and the operation of two different quality oversight processes in parallel will increase administrative costs.¹⁷

Improving Performance Measures. As discussed earlier in the chapter, plans can be required to use standardized encounter forms in uniform ways to record basic utilization and patient information. Most would agree that reporting requirements should evolve over time, so as to encourage health plans to improve their internal information capabilities. Although it is important to determine first what requirements could be established in the short term, policymakers should also recognize that the establishment of an ongoing quality reporting system will require enhancements in health plan data systems, both administrative data sets and medical records. With regard to administrative data sets, there is currently a need to gather baseline information on health plan enrollment and both ambulatory encounter and inpatient discharge data sets. Whereas most plans collect UB-82 data, far fewer use a uniform ambulatory encounter form. These types of data sets are essential if health plans are to submit information on certain types of performance measures.

Although current quality measures may serve the system well in the short term, much work will be required to establish an effective quality reporting system. In the longer term, more sophisticated assessments will probably be desirable. To accomplish this goal, the Commission recommends that the federal government support development of improved quality measures.

Several issues related to the design and implementation of a quality report card would benefit from further analysis. One such issue is how many measures should be included in a quality reporting system. To avoid having a report card that is limited only to measures that are relatively easy to specify, resources would have to be devoted to the development of tools to measure more complex conditions (e.g., chronic care). Although a few well-selected measures might effectively serve as proxies for a larger set of indicators, it will be important to determine how well performance in one area correlates with that in another.

¹⁷ HCFA has grappled with the issue of separate quality oversight processes for many years with regard to the Medicare risk contracting and fee-for-service programs.

Another issue is determining what types of performance measures are most informative to different types of users. Very little is known about the information needs and desires of various users and how best to present information in an understandable manner. The experience of different communities or states could be the basis for an experiment in testing the utility of performance measures. Finally, some specific confidentiality concerns arise with regard to performance data. The public reporting of plan-level results, for example, will need to be sensitive to the possibility that reporting information on clinical conditions that affect a small number of enrollees, or are managed by a limited number of physicians in a community, might lead to the identification of specific individuals.

Meeting the Needs of Managed Competition. A managed-competition approach to reform would involve establishing certain basic entry requirements for all health plans, both indemnity and managed care. These requirements could start as fairly basic standards and be strengthened over time. In addition to entry requirements, managed competition would create standard quality reporting requirements for all health plans. Although requirements could be phased in slowly to allow health plans to develop the necessary internal information capabilities, health plans unable to comply with ongoing reporting requirements after a reasonable time should lose certification. It is difficult to make the case that a health plan that is unable to satisfy basic reporting requirements is capable of adequately managing its internal clinical or financial operations.

A reasonable strategy for implementing a system of managed competition would be to determine a set of measures that have been validated in the literature and to require that plans make available data on their performance (disaggregated in any way that might be necessary for policy purposes). For most plans, these measures should be readily available with existing administrative data; where plans lack a system to produce these measures, they would be required to use other methods (e.g., medical record audits or surveys) to report on their performance. Plans could also be required to open their methodologies for obtaining these measures to audit by the government, a local board, or other outside agency.

Similarly, the government could require that all plans administer a standard enrollee satisfaction survey (or at least incorporate a set of standard questions in existing surveys) to a sample of current enrollees. As described in Appendix A, survey instruments have been developed and tested and could be administered without great expense to the plan.

A local board could also be given the authority to add other requirements for plans in its region, depending on its assessment of the ability of plans to provide such data. It could be permitted to select measures from a longer list of designated performance measures and to change those selections from year to year. Such a rotation could help deter plans from gaming the system by enhancing their performance specifically in those areas measured at the exclusion of other areas of performance. Such changes, however, can impose high administrative costs on plans, if they require plans to alter their information systems.

In the longer term, the national data system should increase the ability of plans to submit a wider variety of performance measures and the ability of both local boards and federal policymakers to do independent analyses. Federal managers could study these data for indicators of uneven access or quality, much as the Commission reviews Medicare claims data to learn whether access has deteriorated as a result of fee reductions (PPRC 1992b). Furthermore, the development of more outcomes indicators would ensure that the assessment of quality is not limited to what is on a claim form. Progress in these areas will depend on further development of valid and reliable indicators of quality and increased standardization of measurement tools. But this progress could be aided by steps such as the establishment of clearinghouses through which plans could share their methods for measuring quality.

A Strategy for Developing Methods of Risk Measurement

In the short term, substantial progress can be made in measuring risk by using demographic variables and self-reported health status (see Appendix A). Demographic adjusters such as age and sex would at least equalize somewhat the burden on plans that draw very different age-sex profiles among their enrollees. Currently, insurance underwriters use multipliers that range from 0.5 to 2.5 to make adjustments for age and sex (CRS 1988). Most studies have attributed little of the statistical variance in *individual* medical costs to sociodemographic factors (Epstein and Cumella 1988; Newhouse et al. 1989). Effective risk adjustment, however, does not need to explain individual variance, only variance for the group as a whole.¹⁸ Other studies have attributed about 50 percent of the statistical variance in *group* costs per person to type of contract (e.g., single or family coverage) and demographic categories (Hayes 1991).

Measuring risk using self-reported health status could also be the basis of a system that could be implemented relatively easily. Although some researchers have criticized perceived health status (e.g., excellent, good, fair, or poor) as easily manipulable, adjusters based on self-reported indicators (e.g., diabetes, hypertension, high blood pressure, angina, chronic back pain) or on standard measures of general health status would be less subject to manipulation. Such indicators have raised the proportion of explainable variance to about one-third. Measures of past utilization have been shown to be even better predictors, but they would require the availability of more complete data (especially those that incorporate ambulatory utilization).

The creation under health system reform of local boards that would enroll all individuals who participate in the system would provide an opportunity to collect fairly inexpensively data on

¹⁸ The explainable variance is much less (estimated at between 14 percent and 20 percent) than the total variance because many health expenditures are truly random in that they cannot be foreseen by either the individual or the plan. If risk adjustment actually explained 100 percent of the total variance, then the system in effect would be using cost-based reimbursement. Still, demographic factors explain less than 10 percent of the explainable variance (Newhouse et al. 1989).

health status and prior use of services, measures not easily collected under current administrative structures. Although these data may not provide perfect risk adjustment, they may offer the local boards risk information nearly equal to what plans know about potential enrollees. While plans would retain an edge in knowing the risk status of current enrollees, surveys of recent disenrollees could provide additional data to the boards.

In the longer term, a substantial effort may be required to develop good risk measurement. As national data systems or computer-based patient records bring together more relevant data on patient characteristics, policymakers may make use of these data to improve the quality of risk adjustment.

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REFORMING GRADUATE MEDICAL EDUCATION

In its *Annual Report to Congress 1992*, the Commission based its initial work concerning graduate medical education (GME) and physician supply on three working assumptions:

- The number of physicians exceeds, or will soon exceed, that required to meet national health care needs.
- The nation is training too many medical subspecialists and too many specialists in some surgical fields relative to the number of primary care physicians.
- Many physicians in both primary care and other specialties lack appropriate training experiences to prepare them for practice in ambulatory settings (PPRC 1992).

The Commission also concluded that current and past federal policies have had limited impact on these problems. Most projections indicate that the U.S. physician-to-population ratio will continue growing through the year 2020. In the Commission's view, unchecked growth in physician supply will undermine other efforts to bring health care costs under control. This could happen if physicians induce demand for more services to maintain income levels in the face of increased supply.

Another concern is the continuing decline in the proportion of physicians trained in generalist fields, which is already lower in the United States than in other industrialized nations. Spiraling growth in the number of residencies, primarily to meet the service needs of teaching institutions, has particularly frustrated efforts to constrain supply and shift specialty mix. Moreover, despite considerable discussion about the need for more training in ambulatory settings, mechanisms for financing graduate medical education have made it difficult to move training out of the hospital.

This year, the Commission began to discuss policy options designed to limit growth in residencies, shift the balance between subspecialists and generalists, and facilitate training in sites other than hospitals. It explored a wide range of alternatives, from incremental changes in Medicare financing policy to those possible only under broader health system reform. The Commission assessed how effective each option would be in bringing about change, whether it could be administered, and the trade-offs between making selective and broad-based cuts in training slots. To assist it in this process, the Commission solicited comments on options from interested parties and received thoughtful feedback in both written statements and oral testimony. On the basis of these activities, the Commission has concluded that substantial changes

in the financing of graduate medical education are required and should be considered a necessary element of broader health system reform. Policies that create weak incentives for change will not succeed in securing the supply and distribution of physicians suited to meet the population's health needs. Bold actions that bring together those making the decisions about the creation of residency slots with those financing training are essential.

RECOMMENDATIONS

All payers should contribute a percentage of their payments for medical care to a national pool. This pool would be used to support the direct costs of graduate medical education for residency positions approved as part of a process in which policymakers, the medical profession, and other interested parties participate.

The Congress should set a limit on the total number of residents to be funded from the pool. The number of first-year residents should not exceed the number of graduates of U.S. medical schools plus 10 percent.

Decisions about the number of residency positions per specialty should be made by a federal body created for this purpose.

Decisions about which slots will be approved for funding from the public pool should be made on the basis of educational quality by the bodies that accredit graduate training.

Payments for the direct costs of graduate medical education could be made to the teaching hospital, the medical school, a consortium consisting of a medical school and several teaching hospitals, or the residency program itself. Direct payment to entities other than hospitals is intended to encourage training in ambulatory sites. The payment per resident should be a prospectively set amount.

Transitional relief funds should be made available to teaching hospitals that lose residency positions as a part of this process. Preference should be given to those hospitals with a disproportionate share of indigent patients.

This chapter describes a comprehensive policy developed by the Commission that is intended to result in a system of graduate medical education that is more responsive to societal needs. Divided into four major sections, it begins by setting the context for change, reviewing the current structure and financing of graduate medical education. The second section considers how health system reform might affect financing of graduate medical education and demands on teaching institutions, as well as supply and distribution requirements. This is followed by a detailed description of the Commission's recommendations and its rationale for rejecting

other policy options. Finally, the chapter concludes by discussing the implications of the Commission's approach and the need to implement complementary policies affecting medical education and the practice environment to achieve policy goals.

Although public policy affecting supply and distribution could be directed at several points along the training pipeline from preprofessional experiences to continuing medical education, the Commission interpreted its mandate as concentrating primarily on mechanisms to change residency training. It took this approach because the federal government has been a major source of funding for graduate medical education through the Medicare program. Moreover, given the pressure to reduce the federal deficit, any option that requires substantial new funding (such as providing incentive grants to medical schools to limit class size) is probably not politically viable. But the Congress can exert its influence by changing the way Medicare funds are spent and by creating a process that brings together other payers to support common goals.

Even though there are few explicit levers that the Congress can use to affect undergraduate medical education, the Commission has serious concerns about growth in medical school enrollment. Increasing enrollment will undermine the effectiveness of the policy proposed here, as well as other efforts to hold down health expenditures. In the year ahead, the Commission will further explore this issue and consider policies directed at the undergraduate level to complement those targeted toward graduate training.

The Commission has also assumed that public financing of graduate medical education is appropriate. While having the right number and mix of physicians is a critical element in ensuring access to effective and efficient medical care, market forces have produced a supply and distribution of physicians poorly suited to meeting national health care needs. Although it has been suggested that an excess supply of physicians might have the beneficial effect of creating greater price competition among physicians and improving the availability of care, such gains have been marginal (Ginzberg 1983; Grumbach and Lee 1991). Public financing of graduate medical education is one lever that can be used to address market failure and to develop more efficient means of accomplishing these policy goals.

Some have raised concerns that the Commission's focus on training policies affecting physicians has been too narrow, suggesting that it should consider the supply and distribution of health professionals more broadly. Clearly, needs for physicians should be assessed in tandem with those for nonphysician practitioners. The Commission sees its work to date as only the first part of a broader inquiry about the appropriate roles and mix of health professionals in many disciplines.

As it developed its recommendations, the Commission has benefited from the expertise of federal government agencies, major national foundations, and organizations representing both organized medicine and medical educators that have long been active participants in this policy area and whose efforts have accelerated over the past year. The federal Council on Graduate Medical Education (COGME) issued a major report in October 1992 that

recommended establishing a national physician work force plan and called for changes at the national, state, and institutional level (COGME 1992). The Health Care Financing Administration (HCFA) and agencies of the U.S. Public Health Service have been working collaboratively on a primary care initiative. The Association of American Medical Colleges' (AAMC) Generalist Physician Task Force recommended a series of private sector initiatives to reach the goal that a majority of medical students be committed to generalist careers (AAMC 1992). The Kellogg Foundation, the Pew Charitable Trusts, and the Robert Wood Johnson Foundation have all launched major initiatives within the last year; the Macy Foundation brought together opinion leaders to discuss the future of graduate medical education.

THE CONTEXT FOR CHANGE

To provide a context for the Commission's recommendations, this section briefly reviews the current system of graduate medical education. It discusses the supply and distribution of residents, organization and control of residency training, financing mechanisms, and the extent of training in sites other than teaching hospitals.

Supply and Distribution of Residents

Currently, 7,189 allopathic residency programs provide training to more than 86,000 residents (*JAMA* 1992). In addition, approximately 3,500 residents are training in programs in osteopathic medicine, oral and maxillofacial surgery, and podiatry. Although the number of U.S. medical school graduates, which rose rapidly in the late 1960s and early 1970s, has been relatively stable over the past decade, the pool of allopathic residents has increased 24 percent since 1981 (Martini 1992).

Growth in the number of residents has outpaced growth in the number of U.S. medical graduates for two reasons. First, the number of first-year positions increased steeply during the late 1970s. While this figure has stabilized more recently, the number of first-year residents still far exceeds the number of U.S. graduates. In 1991, there were 4,700 more first-year residents than U.S. graduates. These slots were filled by graduates of foreign medical schools, commonly referred to as international medical graduates.

Growth in the supply of residents is also a result of the increased length of training in many specialties. Over the past two decades, the average training period has lengthened from 3.0 to 4.4 years. This reflects the growing proportion of residents seeking additional training in medical subspecialties beyond the first three years of internal medicine. Since 1986, the number of residents has more than doubled in cardiology, gastroenterology, and pulmonary disease in contrast to an 8 percent decline in family practice and moderate growth rates of 3 percent and 5 percent in internal medicine and pediatrics, respectively. The number of positions in most surgical specialties has held steady or dropped slightly.

Oversight and Control of Graduate Medical Education

The number and mix of residents are determined by a complex process involving the decisions of private accrediting bodies, training program directors, administrators of teaching institutions, and state and federal governments. General accreditation standards for allopathic residency programs are set by the Accreditation Council for Graduate Medical Education (ACGME), a nongovernmental body sponsored by the American Board of Medical Specialties; the American Medical Association (AMA); the American Hospital Association; the Association of American Medical Colleges; and the Council of Medical Specialty Societies.¹ Decisions about new programs, creation of additional slots for existing programs, and quality criteria are made by 24 specialty-specific residency review committees (RRCs) within the ACGME. Each consists of representatives of the AMA, the appropriate specialty board, and, in some cases, national specialty societies. The RRCs set educational standards related to clinical content, length of training, facilities, and appropriate service volumes for residency programs. Traditionally, they have not considered how the existing pool of residents in a given specialty relates to medical needs when granting accreditation to new programs, noting that federal antitrust law prevents them from explicitly restricting supply.²

Residencies in osteopathic medicine, oral and maxillofacial surgery, and podiatric medicine are approved through similar but separate processes. Residencies in oral and maxillofacial surgery, for example, are accredited by the American Dental Association Commission on Dental Accreditation; those in podiatry are approved by the Council on Podiatric Medical Education, a nongovernmental body sponsored by the American Podiatric Medical Association. The American Osteopathic Association accredits osteopathic residency programs.

The lack of coordination among specialties (as well as among the various medical professions) in approving programs means there is no effort to ensure that the number and mix of residency positions meet national health needs. Instead, the residency approval process has been primarily driven by the service needs of teaching institutions that can develop programs of acceptable quality. As a relatively inexpensive source of highly skilled labor, residents are a valuable resource for hospitals that can meet accreditation standards both to develop new services and to keep critical services staffed. Large inner-city teaching hospitals, in particular, have become heavily dependent on residents. But even smaller community hospitals value trainees, finding that the availability of residents, especially for night and weekend coverage, makes their institutions more attractive to local physicians. As one medical school dean explained, “residents have proven to be the most sought after commodity we deal with in our affiliation agreements [with hospitals]. They

¹ The federal government has a nonvoting representative on the ACGME.

² Such decisions could be made, however, as part of a process specifically authorized by the federal government. Decisions to raise quality standards that effectively limit supply can also be made without threat of antitrust action, as was done by surgical specialties in the mid-1970s.

enhance the work environment and prestige” (Merrell 1992). Growth of residencies in high-technology and procedural fields, such as cardiology and gastroenterology, may be facilitated because relatively high fees provided for faculty services in these fields make it possible to use clinical income to support additional residents. Residents in these specialties may also be particularly valuable because their presence increases faculty productivity.

Financing of Graduate Medical Education

Graduate medical education is largely financed through patient care revenues generated by hospitals. The federal government is the largest single explicit financing source for graduate medical education through the Medicare program. The Department of Veterans Affairs also finances training for about 10 percent of residents; a smaller number (about 4,100) are supported by the Department of Defense. In addition, through grants under Title VII of the Public Health Service Act, the federal government subsidizes training in family medicine, general internal medicine, general pediatrics, geriatrics, and podiatry.

Other payers have less explicit mechanisms for financing graduate medical education. Teaching hospital charges to private payers reflect the direct costs of graduate medical education (for example, residents’ stipends) although these payers do not identify and separately pay for these costs. Since most state Medicaid programs pay hospitals below cost, these programs provide little support for graduate medical education, even when their payment methodologies recognize direct costs. Many states, however, do contribute direct support for some residency programs, particularly those in family practice (Barnett and Midtling 1989).

When the Commission began its work in this area, it looked to how Medicare dollars could be leveraged to influence the number and mix of residents. Although the scope of this analysis has now broadened to consider reforms affecting all payers, understanding the mechanisms Medicare uses to recognize the costs of graduate medical education is still useful for two reasons. First, the Commission’s proposed policy would replace only one element of Medicare financing: payment for the direct costs of graduate medical education. Second, changes in Medicare financing could be pursued even if other payers are not brought to the table.

In Medicare’s early years, GME was funded like other hospital services on a retrospective, reasonable-cost basis. With the adoption of prospective payment, new policies were needed to ensure equitable payment for teaching hospitals. The costs of graduate medical education are now recognized under two mechanisms: (1) direct medical education payments to hospitals for residents’ stipends, faculty salaries, administrative expenses, and institutional overhead allocated to residency programs; and (2) an indirect medical education (IME)

adjustment to per case payments.³ In 1991, Medicare paid approximately \$1.5 billion in direct medical education payments and \$3.33 billion in indirect adjustments.⁴

Medicare's direct medical education payments are paid to teaching institutions in addition to the per case payments based on diagnosis-related groups (DRGs), but they are no longer a pass-through. Since the passage of the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), these payments have been based on hospital-specific per resident costs from the 1984 or 1985 cost-reporting years, updated for inflation.⁵ This base is multiplied by the number of full-time equivalent (FTE) residents during the payment period. Residents beyond the initial period of residency (up to the minimum for board eligibility plus one year, not to exceed five years) are weighted as 0.5 FTEs. A special exception allows residents in accredited geriatrics training programs to be considered as 1.0 FTE for an additional two years.

This payment method has been much criticized, primarily because the hospital-specific calculation has led to substantial variation in payments across hospitals, from a low of \$11,000 to more than \$100,000 per resident. The distribution for residents' stipends is much tighter with more than 70 percent of hospitals reporting salary and fringe benefit costs ranging from \$20,000 to \$60,000. Based on its analysis of these data, the Department of Health and Human Services (HHS) concluded that variation in Medicare payments primarily reflects differences in accounting practices and inaccuracies in measuring the number of FTEs, rather than differences in the true costs of training (HHS 1992).

The indirect medical education adjustment is also hospital-specific, but it is a percentage amount (based on the ratio of interns and residents per bed) added to each DRG payment. Currently, hospitals receive a 7.7 percent increase to DRG payments for each 10 interns and residents per 100 beds.

In considering how Medicare funds could be used to reach policy goals, the Commission has refrained from making recommendations to redirect or restructure the indirect medical education adjustment. This is because the IME adjustment was not designed to support teaching per se. Rather, it was meant to compensate these hospitals for their relatively higher costs attributable to the involvement of residents in patient care and the severity of illness of patients requiring specialized services available only in teaching hospitals. These concerns fall within the mandate of the Prospective Payment Assessment Commission (ProPAC). It is

³ Medicare also makes payments under Part B to teaching physicians for the services they provide to Medicare beneficiaries. Some portion of these funds may be used to support graduate training.

⁴ About 25 percent of direct medical education payments (approximately \$400 million) is used to support nursing and other allied health education in hospital-operated programs.

⁵ Final regulations implementing this section of COBRA were delayed until 1989. Subsequently, a court suit over these regulations raised legal barriers to reexamination of base year costs. This decision is now being appealed.

important to recognize, however, that any reductions in the number of residency positions will decrease IME payments because they are based on the ratio of interns and residents to beds.

Ambulatory Training

The shift of health delivery to settings outside the hospital has created a need for ambulatory training as an integral part of GME. As more services are provided on an ambulatory basis, hospital stays shorten, and only the most acutely ill patients are admitted, the inpatient environment offers an increasingly restricted range of educational experiences.

Training in ambulatory sites gives residents an opportunity to acquire skills that span a continuum of care, including health promotion and preventive medicine, managing chronic disease, and making decisions about when hospitalization is necessary. This training should also expose residents to the mix of patients and the range of problems they will likely encounter in practice. Finally, ambulatory training may allow residents to develop continuous relationships with their patients. Both specialists and generalists need to learn these skills in order to be trained adequately for practice in the community.

Although there is little information on the duration and nature of ambulatory care training, most residents spend little time outside the hospital. A 1989-1990 census of internal medicine programs, conducted as part of the National Study of Internal Medicine Manpower, indicates that first-year residents spend about 13 percent of their time in ambulatory care settings. This percentage increases as the three years of training progress, but only to 22 percent in the second year and 27 percent in the third year. Of this time, more than half (53 percent) is spent in hospital outpatient departments (Andersen et al. 1992).

A variety of barriers have impeded expansion of graduate medical education to sites beyond the teaching hospital. Significant among these is the reliance on residents to meet institutional service needs. Just as teaching institutions have been served by increases in residency positions, so have they benefited from the continued focus on inpatient training.

Insufficient financing has also impeded expansion of ambulatory training. Current GME financing mechanisms provide only limited support. For example, Medicare provides payments to hospitals to recognize the direct costs of training. But it will only acknowledge (and thus pay) costs associated with residents' time in ambulatory settings if the hospital incurs "all or substantially all" of the cost of training. Furthermore, the expenses of outpatient faculty can be included in the calculation of direct medical education payments only if they are incurred by the entity that owns the hospital (e.g., a university) (Eisenberg 1989).

This financing structure neither stimulates nor adequately supports ambulatory training. In sites other than teaching hospitals, there are no mechanisms to pay resident and faculty salaries or to support administrative overhead (Eisenberg 1989; 1990). Moreover, particularly in primary care specialties, clinical income generated by faculty is not sufficient to cover any

additional costs of training. This reflects both relatively lower fees for outpatient services and the fact that these services are less likely to be insured (Bentley et al. 1989). For example, in family practice, where ambulatory training is most prominent, patient care revenues cover only about 20 percent of program costs (Colwill and Glenn 1981).⁶

Other factors may impede development of ambulatory training programs. First, there is a general concern that extending training to multiple small sites would weaken the ability of program directors and accrediting bodies to ensure the quality of education. Although large institutions like multispecialty group practices may permit oversight comparable to that for inpatient services and hospital clinics, it may be more difficult to supervise training in smaller sites, particularly physicians' offices. Thus, while the number of potential training sites may appear substantial, quality considerations may significantly limit this pool.

Second, academic medicine has traditionally placed a low value on ambulatory care. Rewards for faculty have been oriented toward research and specialized inpatient care. Making ambulatory experiences a more prominent part of residency training will require a set of policies that support a shift in these values.

Finally, some suggest that while patients expect medical students and residents to participate in their care in teaching hospitals, they may be less willing to accept teaching on the ambulatory side. Some patients, particularly those in higher socioeconomic groups, may be unwilling to be assigned to a resident's panel of patients (IOM 1989). There is a general question, however, whether this resistance may weaken as patients become more comfortable with the presence of trainees (Eisenberg 1990).

CHANGES IN GME FINANCING UNDER HEALTH SYSTEM REFORM

As the Commission noted in its *Annual Report to Congress 1992*, past federal efforts to slow the growth in physician supply and change specialty distribution have been ineffective because they were underfunded, had insufficient political support, or were undermined by other policies that created more powerful incentives in the opposite direction (PPRC 1992). Now, broader system reform brings the potential of developing more effective solutions by including all payers in new financing strategies for graduate medical education and by developing new systems of service delivery for uninsured persons who historically have relied on teaching institutions as their usual source of care.

The health system reform debate also provides an important opportunity that was missing in the past to coordinate supply and training policies with those affecting payment for physicians' services, access to care, and cost containment. Although one of the goals of the

⁶ The rest of the funds for these training programs come from the medical school, federal grants, and some state support.

Medicare Fee Schedule was to create rewards for primary care practice, changes in Medicare fees alone will not change incentives for physicians to enter other specialties (Marder et al. 1993). Other policies are needed to reinforce the goals of payment reform.

The success of other reforms to rationalize the delivery of medical care and slow the growth in national health expenditures may actually be undermined unless accompanied by some limits on system capacity. The ability of physicians to affect demand for their services, for example, suggests that training more doctors leads to the provision of more services. Even improved knowledge about medical effectiveness may not mitigate this trend; Wennberg (1990) argues that, when physicians do not have full practices, their desire to find new therapies and new ways of detecting disease will continue to push up costs.

The Commission assumes that system reform, whether based on rate setting, more competitive models, or some combination of these approaches, will contain two essential elements: universal insurance coverage and some mechanism to control growth in total national health expenditures. Such reforms could facilitate development of more effective policies concerning physician supply and graduate medical education in several respects. First, universal coverage may ease the financial pressures on urban public teaching institutions that have relied heavily on residents to care for patients who have no insurance and no other source of medical care. It could, for instance, make it easier for these hospitals to hire nonphysician practitioners or community physicians to meet service needs, freeing residents to develop skills in other sites.

Second, health system reform may change the demand for physician care overall as well as the demand for generalist physicians relative to specialists. On the one hand, universal coverage will likely increase the number of individuals seeking primary care in physicians' offices, suggesting that more doctors will be needed to care for this new patient load. On the other hand, managed-care organizations, which many expect to cover a large percentage of the population in the future, tend to have substantially lower physician-to-population ratios and higher ratios of generalists to specialists than the nation as a whole (Mulhausen and McGee 1989).

Finally, health system reform presents an opportunity to coordinate the policies of multiple third-party payers in financing graduate medical education. While reforms in Medicare's financing policies could be used to leverage changes in the supply and distribution of residents, the program pays only for a portion of training costs. To the extent that hospitals can now cost shift, paying for residents by raising charges to other payers, the incentives or penalties associated with Medicare graduate medical education dollars are diluted. Involving other payers can create financing mechanisms that are more effective in achieving policy goals.

RECOMMENDATIONS FOR CHANGE

The Commission has envisioned a new system for financing graduate medical education that would limit future growth in resident supply, rationalize the allocation of residency positions,

and make entities sponsoring training programs more accountable to the nation's health care needs. This system includes five components:

- a congressionally set limit on the total number of residencies to be funded;
- a federal body that, using both objective data and input from interested parties, would determine the distribution of these slots by specialty;
- decisions by accrediting bodies to select those residency slots to be funded on the basis of educational quality;
- payments for the direct costs of graduate medical education to approved residencies from a national financing pool to which all payers would contribute a percentage of premiums or payments for medical care services; and
- mechanisms to provide transitional financial relief to teaching hospitals that lose residents but still must meet essential service needs.

Each of these elements is described in greater detail below.

Limits on the Number and Mix of Residents to Be Funded

An often-criticized feature of the current GME system is the absence of a link between decisions about financing and those determining the supply and mix of residency positions (Anderson et al. 1990). The Commission considered the merits of several alternative mechanisms to create such a link. These included providing preferential funding for primary care positions (referred to as weighting), paying only for primary care positions, and paying only for the first three years of training.

After careful consideration, the Commission rejected these approaches as undesirable for several reasons. First, although preferential funding for primary care residents has been advocated as a mechanism to encourage hospitals to create such positions, this appears unnecessary because there are many existing unfilled slots in these fields. During the mid-1980s, the proportion of medical school graduates expressing interest in primary care declined from 36 percent to 23 percent (Colwill 1992). Preferences for careers in other fields reflect many factors, including encouragement from faculty, the opportunity to master a defined body of knowledge, exposure to the field as part of medical school clerkship, higher incomes, prestige, and quality-of-life considerations such as shorter or more predictable work hours (McCarty 1987).

Second, weighting would likely have little impact on the decisions of hospital administrators and residency program directors. On the one hand, preferential funding for primary care

positions may be insufficient to encourage their development. The geriatrics exception under COBRA that allowed residents in geriatrics to continue to be counted as 1.0 FTE beyond five years provided only modest increases in Medicare GME payments. In some cases, these increases were insufficient to outweigh the additional costs in faculty time and other administrative expenses associated with starting up or expanding geriatrics residencies (Friedman et al. 1990).⁷

On the other hand, weighting may not penalize institutions that are heavily oriented toward subspecialty training. For one tertiary referral center, a change in Medicare weights proposed in the last Congress would have meant a loss of only 5 percent of its Medicare payments for the direct costs of graduate medical education. This organization and others could likely withstand even more substantial reductions. In any case, as long as residents and fellows in procedural specialties can pay for themselves either by improving the productivity and incomes of faculty physicians or through support from other sources such as the National Institutes of Health (NIH) and philanthropic organizations like the March of Dimes and American Cancer Society, teaching hospitals will have little incentive to eliminate these positions.

The Commission also rejected as unwise the options of paying only for primary care positions or only for the first three years of training. Despite the current call to increase the proportion of generalists, the nation will continue to require well-trained physicians in all specialties. The Commission was also concerned that such a policy would not be sufficiently flexible if changing health needs in the future reveal shortages in nonprimary care specialties or in those that require more than three years of training.⁸

On the basis of this analysis, the Commission determined that limits on the total number of residency positions are essential. Moreover, deliberate decisions should be made about the distribution of these positions across specialties. All positions that are approved as part of an open, deliberative process should be funded for the full length of training.

Paying for a fixed number of residents would be similar to the policies of other Western industrialized nations. For example, the British government finances all graduate medical education slots and controls the number of training positions by specialty (Maudsley 1988). In Canada, about 85 percent of residency positions are funded by provincial ministries of health.⁹ The number of residents to be funded is determined in annual negotiations among

⁷ Because direct medical education payments are based on historical costs per resident averaged over all of an institution's training programs, costs per resident in new programs may exceed Medicare payments.

⁸ The Council on Graduate Medical Education has identified current shortages in general surgery as well as both adult and child psychiatry (COGME 1992). Several specialty societies have also suggested to the Commission that there are current or developing shortages in emergency medicine, geriatrics, and pathology.

⁹ Other positions are funded by the Department of Defense and certain specialty societies.

medical schools, associations representing physicians, and provincial governments (Ryten 1991). Despite increases in the number of nonministry-funded positions over the past decade, particularly in subspecialties, the total number of graduate training slots has been quite stable (Maudsley 1988; Iglehart 1990).

The experiences in these systems suggest that when GME financing is used to support manpower policy objectives, physicians train in those fields. In fact, even though the trend toward specialization in Canada during the 1960s was similar to that in the United States, changes in the financing and control of GME during the 1970s (combined with other health system reforms) have led to markedly different career choices between Canadian and U.S. medical students. About half of Canadian medical graduates become primary care physicians, compared with less than one-fourth of their American peers (Whitcomb 1992).

In this country, a similar policy could be established with three elements: a congressionally determined limit on the total number of residency slots, allocation of these slots across specialties by a federal commission established for this purpose, and allocation of slots to individual residency programs by accrediting bodies. These are described below.

Congressionally Determined Limits on Total Number. The Commission recommends that the Congress set in statute a limit on the total number of residencies to be funded and achieve this limit by sequencing reductions over successive classes of first-year residents. Reductions in the number of first-year positions combined with limits on the number of positions by specialty will curtail the number of trainees in every postgraduate year. Sequencing cuts would provide for a transition period and avoid the possibility that residents already in programs will not be able to complete training due to elimination of positions. If implemented in 1992, a policy that limited the number of first-year residents to U.S. graduates plus 10 percent would have required cutting about 2,500 positions. Over time, this policy would reduce the current number of residents by about 11,000 to around 75,000. A more restrictive option would be to set the limit for first-year residents to equal U.S. graduates plus 5 percent. This would reduce the total number of residents by almost 14,500 to about 72,000.

To assess the implications of limiting the number of residents, the Commission estimated the financial impact on teaching hospitals if such a policy were put in place for the Medicare program only.¹⁰ On average, this policy would result in an 11 percent reduction in the number of Medicare-funded residencies, a 10 percent reduction in total Medicare direct and indirect medical education payments, but a loss of only 2 percent of total Medicare revenues.¹¹ Although lack of data precludes the Commission's ability to extend this analysis to an all-payers scenario, the relatively small size of Medicare

¹⁰ This analysis was based on data from the HCFA Hospital Cost Report Information System PPS VII Minimum Data Set, the AAMC Annual Tracking Survey, and the HCFA Intern Resident Information System.

¹¹ The impact on individual institutions would vary depending upon the number of residency positions lost.

revenue losses under this limit suggests that many hospitals will be able to absorb such losses.

Even though the Commission has concerns about the large number of students graduating from medical school annually and the long-term impact this will have on the stock of physicians, it does not recommend setting the limit for first-year residents below the number of U.S. medical graduates.¹² Assuming that medical school enrollment does not increase, all graduating medical students should have the opportunity to complete their training. Moreover, there should be an additional number of slots above the number of U.S. graduates so that the United States can fulfill its obligation to train health professionals from abroad. While this policy would reduce the total number of residency positions, it would not discriminate against international medical graduates. Instead graduates of foreign medical schools would compete for residency positions against graduates of U.S. schools, just as they now do either through the National Residency Matching Program or by direct application to individual programs.

Allocation of Slots by Specialty. Decisions about the number of residencies per specialty should be made by a federal body created for this purpose. This would permit more deliberative and detailed analysis of the appropriate allocation of slots than would be possible if set in statute. It would also allow for continuous adjustment of resident allocation over time. If desirable, this body's mandate could be expanded to consider the number and mix of practitioners in other disciplines as well.

The Commission envisions that this new decisionmaking body would meet regularly in an open forum, using both objective data and input from interested parties in making its decisions. It should also have research, planning, and evaluation functions and either fund or conduct analyses to inform future decisions. Issues of interest might include the impact of changing practice patterns and shifting demographics on supply and distribution, lessons to be learned from staffing patterns in managed-care organizations, the implications of delivery system changes for the length and content of training in different specialties, and the appropriate roles of various health professionals.

Some have suggested that a comprehensive national manpower study would be needed as a starting point for allocation of residency positions across specialties. While such a study might provide useful information, the Commission would caution against waiting on results before making any cuts. It is the Commission's view that enough is known to begin making progress toward policy goals.

In considering the functions of this decisionmaking body, the Commission looked at several different alternatives for how it should be structured and its relationships to the Congress

¹² Tying the number of residents to the number of medical school graduates would permit even further reductions in residency positions should medical schools decide to limit enrollment.

and the Department of Health and Human Services. First, it could be a commission that provides advice to the Congress. This would permit it to be made up of private citizens representing various constituencies (for example, teaching institutions, medical schools, nonacademic physicians, residents, state and local health officials, and the smaller medical professions) who would work for the commission on a part-time basis. The most promising model is that of the Defense Base Closure and Realignment Commission. The statute that created this body required the Congress to take an up or down vote on its package of recommendations without amendment. Its decisions, if accepted in this manner, are binding as statute.

Alternatively, it could be a commission made up of private citizens that advises the Secretary of Health and Human Services. One advantage of placing this body within the Secretary's sphere would be the opportunity to coordinate its work closely with related activities of HCFA, the U.S. Public Health Service, and other federal health programs. A disadvantage, however, would be the potential for the commission to develop recommendations that are based on objective data only to be rejected by the Secretary because of political concerns.

Finally, decisions could be made by an independent federal agency, with members appointed by the President and confirmed by the Senate, much like the Securities and Exchange Commission. Individuals who agree to accept appointment to this body would become full-time employees of the federal government and would be required to discontinue other professional activities to avoid conflicts of interest. This is the model being suggested by those who advocate the creation of a national health board as a key element in system reform; if such a board were created, this body could be one of its subunits. The relationship of the board to HHS is unclear in most proposals.

Under any of these configurations, the decisionmaking body should have sufficient funding for staff and outside contracts. Funds from the payer pool, described below, could be used to support its work.

Accrediting Bodies. Once the decision is made about the number of positions to be funded for each specialty, a second tier of decisions will be required as to which specific positions in these fields should be funded. The Commission recommends that these decisions be made by the bodies that accredit graduate training on the basis of educational quality.

The Commission reached this conclusion after considering several options. First, cuts could be made by the federal government by formula, such as preserving all current primary care positions and making across-the-board cuts for all other positions. For example, if a 20 percent cut in positions would be required to meet the aggregate supply goal, the full complement of primary care positions would be funded. All other programs would receive a 20 percent cut in the number of funded positions. Although simple to operationalize, this approach was rejected for several reasons. Cuts would be indiscriminate, affecting both

marginal and high-quality programs. In addition, this approach would grandfather in the historical distribution of residencies across individual training programs.

Second, the federal government could use a more deliberate process for determining where cuts should fall. This would require developing specific criteria for making initial cuts, inviting input from interested parties, and reassessing resident allocation and national health needs on an ongoing basis. But this approach was also rejected as being administratively burdensome and duplicative of some of the work currently done by accrediting bodies such as the residency review committees. Numerous organizations also expressed reservations about the federal government micromanaging a sphere that has long been controlled by the medical profession itself.

Ultimately, the Commission decided that it would be most appropriate if decisions about the specific slots to be funded were made by the medical profession on the basis of educational quality. The goal would be to protect high-quality programs, making necessary cuts in those programs of the poorest quality. An example may help illustrate this process. First, the federal commission would determine the number of residents to be funded per specialty: for example, 100 residents in Specialty A. This would then be communicated to the residency review committee for that specialty (or other accrediting body, as appropriate). If 125 positions were currently available in Specialty A, it would be the responsibility of the RRC for Specialty A to rank programs based on quality measures and then go down that list approving slots until 100 positions were selected. Presumably, the RRC would have the flexibility to fund all positions in the best programs or to spread cuts across all programs.

Making the profession a partner in the process of rationalizing the allocation of residencies has several advantages. Accrediting bodies, such as the ACGME, its RRCs, and the American Osteopathic Association, already have access to information and expertise needed to evaluate training programs and would be well-positioned to make informed choices about which should be funded. In addition, it would keep the federal government at an arms' length from decisions about the content and quality of training.

Another important advantage of this approach is its implications for antitrust enforcement. The profession has long argued that it cannot limit the number of residencies because this would be considered a restraint of trade. But this process would be federally sanctioned. Therefore, it is the Commission's understanding that, because the federal government would be asking the profession to make these choices, the RRCs and others making them would not be subject to antitrust action. To clarify this relationship, it may be desirable to draw up a contract between public and private-sector partners that specifies responsibilities and expectations.

There is some question about whether the ACGME and other accreditors would be willing to take on this task. At its December 1992 meeting, the AMA House of Delegates adopted a

policy statement that “program accreditation not be used to address specialty distribution of physicians” (Page 1992).¹³ It is not known how the profession might respond if the alternative were to have the government make these decisions. There has been some discussion within the profession about developing a new organization to assume the role of ACGME. National leaders in medical education meeting at a Macy Foundation conference recommended creating a new accrediting body that would be separately incorporated, publicly funded, and expanded to include members of the general public as well as experts in health economics and health policy (Josiah Macy, Jr. Foundation 1992).

Payer Pool

In the Commission’s view, all payers should share the costs of graduate medical education. This reflects the principle that all who benefit from graduate medical education should contribute to its costs. Patients clearly profit from graduate training when they receive services in teaching hospitals. But they also benefit to the extent that the other physicians they see are well trained to address their medical needs. Currently, some payers may escape from supporting GME by avoiding teaching hospitals. This could be exacerbated under managed competition if plans continue to seek a competitive advantage by directing patients to nonteaching hospitals.

The Commission recommends that all payers, including self-insured employers, contribute a percentage of their payments for medical care to a national public pool. A 1 percent set-aside would generate about \$8 billion to support training programs.¹⁴ The funds in this pool would be used to pay for the direct costs of graduate medical education for residency positions approved as part of a process in which policymakers, the medical profession, and other interested parties participate. The pool could be administered either by HHS or by a national health board. Because the Medicare program would contribute to this pool like all other payers, it would no longer make direct medical education payments to hospitals.

Some have suggested that several regional pools would be desirable as a mechanism to ensure an appropriate geographic distribution of residents. While recognizing the need to avoid concentrating all residencies in certain urban areas or in a few states, the Commission decided that a national pool was preferable for several reasons. First, many senior medical students seek residency positions based on the reputation of specific training programs rather than on their geographic location. Second, and perhaps more importantly, payments for medical services (on which contributions to the payer pool would be based) and residency

¹³ By contrast, the Medical Schools Section of the AMA endorsed a policy statement from its Primary Care Task Force stating that “policymakers should develop strategies to ensure that the number of residency positions is tied to national and regional manpower needs...funding mechanisms for graduate medical education might be used as part of the mechanism to allocate the number of residency positions” (AMA 1992a).

¹⁴ Although the total cost of graduate medical education has not been estimated, educated guesses range between \$5 billion and \$9 billion.

programs do not have the same geographic distributions. In other words, a payer pool for the Southwest would likely be overfunded relative to the number of residency positions in that region, while that for the Northeast would be relatively underfunded.

Although the Commission looked at several mechanisms for securing the support of payers other than Medicare, it found the payer pool to be the most desirable. Experiences at the state level suggest that where there are explicit and predictable sources of funding for graduate medical education, these have been successfully used to leverage changes. For example, in New York, identification of explicit funding for GME under the state's hospital rate-setting mechanism has given medical schools and teaching hospitals an opportunity to pool resources to meet policy goals such as training more primary care physicians, developing ambulatory training sites, and reaching out to minority students. To date, one such consortium has been developed; member institutions of the Graduate Medical Dental Education Consortium of Buffalo have a written agreement to contribute a share of their GME funds into a consortium fund for special initiatives. Rate setting has enabled New Jersey to set strict caps on the number and mix of residencies funded. Further, at least in these two states, graduate medical education commissions appointed by the governor advise the state assembly and executive agencies on policy development and implementation. These commissions also provide a forum for affected parties to air concerns.

The Commission considered, but did not resolve, whether other sources of support for training, such as Title VII funding currently used for the direct costs of training, should also be contributed to the pool. This would effectively create the authority to use pooled funds for demonstration projects and seed grants in addition to supporting training programs' operating costs. Creating a single funding source for graduate medical education could ensure that all federal policies affecting physician supply and distribution are coordinated. But, since these programs are currently funded from general revenues, an argument can also be made that they should continue to be separately administered.

A related question that the Commission did not resolve is whether the Departments of Veterans Affairs and Defense should contribute to the payer pool or continue to fund residencies within their agency budgets. It may be desirable for these agencies to continue to have the latitude to fund those residencies that meet the service needs of institutions responsible for their unique patient populations. On the other hand, allowing these agencies such discretion could create a loophole that would undermine the overall limit on the number of residency positions.

Breaking the link between payment for hospital services and the financing of graduate medical education creates two additional questions: who should receive the payment and what methodology should be used for determining payment amounts. These issues are discussed below.

Who to Pay. The Commission struggled with the issue of who should be eligible to receive payment for graduate medical education. It considered several alternatives: making payments to teaching hospitals, medical schools, consortia consisting of a medical school and several teaching hospitals, or directly to residency programs. There are strengths and weaknesses to any of these approaches.

Continuing to make payments to the hospital was the simplest option because it would maintain the status quo. Even with increased training in ambulatory settings, inpatient rotations will remain a critical part of the residency experience, and hospitals may remain the home base for many programs. In addition, hospitals have administrative systems in place for functions such as accepting payments, paying salaries, and managing space.

The argument against continuing these historical arrangements is the lack of accountability. As the Commission noted in its comments on the Administration's fiscal year 1992 budget proposal, once a teaching institution receives payment from Medicare, its administrators have considerable discretion over how these funds will be used. This means, for example, that primary care training programs would not necessarily be the beneficiaries if they received higher payments for their residency positions (PPRC 1991).

Alternatively, payments could be made to medical schools as in Canada. Paying medical schools has administrative advantages because there would be fewer entities to pay; there are just 126 allopathic and 15 osteopathic schools as opposed to nearly 1,200 teaching hospitals. Medical educators have also argued that channeling GME funds to medical schools may promote a better educational environment and would allow for greater continuity with undergraduate medical education. This approach could, for instance, enable schools to develop special programs to foster interest in primary care among medical students and to follow those students into their residencies.

Others argue, however, that lack of accountability is as much an issue for medical schools as it is for hospitals, suggesting that medical schools would be as likely as teaching hospitals to encourage a subspecialty emphasis. In addition, there is the problem of how to support the many programs that are either freestanding or that have limited affiliations with medical schools. Between 15 percent and 20 percent of institutions sponsoring residency programs have a limited affiliation with a medical school (AMA 1992b). Fully two-thirds of general surgery programs in nonuniversity settings do not have strong direct ties to a medical school (Association of Program Directors in Surgery 1992).

The Council on Graduate Medical Education has recommended that payments be made to local, state, or regional consortia consisting of a medical school, teaching and community hospitals, community health centers, and other educational institutions and agencies (COGME 1992). Like the option to make payments to medical schools, this would improve the continuity of the educational experience and reduce the number of entities receiving payment. It would also encourage the development of collaborative relationships among a

variety of institutions, including nursing homes, health maintenance organizations, and freestanding community clinics, that can provide experiences beneficial to residents. The fundamental problem with permitting payment only to consortia is that so few currently exist. The experience of the consortium in Buffalo also suggests that building such relationships takes time. Moreover, local circumstances (for example, the presence of numerous medical schools in cities such as Boston, New York, and Washington, D.C.) may make consortia especially difficult in some areas.

Finally, the Commission considered the option of making payments directly to the residency program itself, building on the established practice of the NIH and the Agency for Health Care Policy and Research in funding postdoctoral fellows. This would give program directors the flexibility and the financial resources to develop experiences, including those in ambulatory settings, that are in the best interest of the residents. For example, a program could directly negotiate with a community health center, hospital, or nursing home to provide rotations for its students. Further, although some have suggested making direct payment to any site that accepts residents, paying the program would achieve the same goal of facilitating training in nontraditional sites while ensuring that all sites provide an appropriate educational experience. Some program directors, however, may be reluctant to take on this role because it would complicate already difficult relationships with department chairs, deans, and hospital administrators. In addition, many programs lack the accounting and other administrative systems necessary to take on this role.

Because local circumstances will determine the effectiveness and desirability of these alternatives, the Commission decided to provide flexibility by permitting payments to be made directly to the hospital, medical school, consortium, or program. To implement this policy, it would be necessary for programs to declare a financial sponsor either to the payer pool once its slots are approved, or to its accrediting body earlier in the process. Allopathic residencies already must identify a sponsoring organization (typically a hospital or medical school) that monitors the quality of education, coordinates accreditation activity, and administers funding.

Payment Methodology. Although payments from the payer pool could be determined using Medicare's current methodology, the Commission recommends developing a new standardized payment per resident. As mentioned above, Medicare payments vary substantially across hospitals due to accounting practices, payments to supervisory physicians, and historical inefficiencies. This method effectively penalizes efficient hospitals and those that did not report all potential direct costs in the 1984 or 1985 cost reporting year.

In the year ahead, ProPAC will consider alternative Medicare payment methodologies, such as capping the maximum per resident amount and creating a uniform per resident amount (perhaps with adjustments for cost of living differences across different geographic regions). This new method could be used either for the Medicare program only or under the Commission's broader approach to GME financing.

Transitional Relief

Reducing the number of residents and shifting positions from subspecialty fields to primary care and from inpatient settings to ambulatory sites will be disruptive to teaching hospitals. Because these institutions' reliance on house officers to meet clinical service needs has been a major impediment to changes in resident supply, specialty mix, and the site of training, an effective policy should also address these needs. The Commission recommends making available transitional relief funds to teaching hospitals that lose residency positions as a part of this process. Preference should be given to those hospitals with a disproportionate share of indigent patients.

Teaching institutions could respond to the loss of residents by eliminating services or substituting highly skilled nonphysician practitioners (NPPs) or community physicians for residents. This section considers both the potential of using NPPs in this fashion and other approaches teaching institutions have used in response to limitations on resident work hours. Finally, it suggests how transitional relief should be structured to facilitate using these strategies in tertiary care centers.

The Potential of Nonphysician Practitioners to Replace Residents. Physician assistants (PAs) and nurse practitioners (NPs) are the primary candidates to substitute for residents due to their skills in physical assessment, medical management, and pharmacology; certified nurse-midwives (CNMs) could meet service needs in gynecology and obstetrics. Clinical nurse specialists (CNSs) have not traditionally been prepared for these roles but could assume some duties now the responsibility of residents. In fact, in some settings, CNSs conduct physical exams, treat acute and chronic illnesses, and provide routine care in collaboration with physicians (Keane 1992). In addition, certified registered nurse anesthetists could be used as substitutes for residents in anesthesiology.

There is a small but growing literature documenting the favorable experience teaching hospitals have had using nonphysician practitioners on the wards, in critical care, and in surgery. At Strong Memorial Hospital in Rochester, New York, the step-down unit in neonatal intensive care was changed from a resident-staffed to a nurse practitioner-staffed service in 1990. A comparison of outcomes before and after the change found that infants under the care of nurse practitioners had shorter lengths of stay, lower hospital charges, and fared just as well on all quality indicators even though they were smaller and younger (Schultz 1992). At the Hospital of the University of Pennsylvania, NPs manage patients on most medical services and provide follow-up to patients and their families after discharge (Keane 1992).

The use of NPPs to replace residents has been especially widespread in surgery, where some residency programs have lost accreditation because they lacked sufficient cases to provide adequate clinical experience (Foreman 1992). In other institutions, PAs have also assumed responsibility for preoperative and postoperative care, obtaining histories, conducting

physical exams, and performing noninvasive procedures. At Butterworth Hospital in Grand Rapids, Michigan, for example, PAs serve as house officers in cardiothoracic surgery, neurosurgery, urology, and orthopedics. Nationwide, some 3,000 PAs work as hospital house staff (Evenhouse 1992).

Under certain circumstances, nonphysician practitioners may be preferable to residents. Some faculty would rather work with nonphysician practitioners, who have a lower turnover rate, greater familiarity with departmental procedures, and more clinical experience than first- and second-year residents (Silver and McAtee 1988). Using NPPs may also ensure that residents have richer educational experiences. One time and motion study of residents at three Minnesota teaching hospitals found that they spent 12 percent of their time inserting catheters and drawing blood, procedures that can be done by NPPs (Lurie et al. 1989). Because these tasks lose their pedagogical value after a certain number of repetitions, delegating them to NPPs would free residents to perform more educational duties and focus on complex cases (Cawley 1992).

On the other hand, there are clinical, financial, and practical reasons that caution against relying too heavily on NPPs as substitutes for residents. Although NPPs may work well as substitutes for first-year and second-year residents, some suggest they may require additional training to assume responsibility for more complex cases that call for more advanced medical decisionmaking or greater technical skill. These concerns may lessen in the future with increasing specialization among advanced practice nurses and physician assistants; NPPs also could be trained specifically to take on these roles. But even under these circumstances, additional attending physicians may be needed to assume responsibilities that require medical training.

Another barrier to using more nonphysician practitioners is the view that they are more expensive to hire than residents. First, they command far higher salaries than residents and work many fewer hours. For example, the average national salary for physician assistants ranges from \$45,000 to \$49,000 compared with the average stipend of about \$29,000 to \$31,000 for second-year and third-year residents (AAPA 1992; AAMC 1991).

Second, unlike residents who bring Medicare graduate medical education payments to the institution, hospitals do not always receive an explicit payment for the services of NPPs.¹⁵ But, NPPs may cost institutions less than salary figures suggest because they may be more efficient than residents or require less faculty supervision. For example, the Hospital of the University of Pennsylvania is seeking NPPs to help relieve residents' work load on two medical services. Their salaries will be paid by the hospital with the expectation that greater continuity and coordination of care will contribute to better outcomes, shorter lengths of stay, and savings (Sovie 1992).

¹⁵ Medicare pays PAs for hospital services when such services would be covered if furnished by a physician, including assistant-at-surgery services.

Finally, it is unclear whether a sufficient number of NPPs will be willing to step into new jobs that might be created by the loss of 11,000 residents (the reduction envisioned under the Commission's proposed limit). Based on substitution estimates developed by Knickman and his associates (1992), 4,400 physician FTEs and 7,700 NPP FTEs would be needed if hospitals maintain current service volumes.¹⁶ A conservative estimate of the NPP work force from which resident substitutes could be recruited is roughly 80,000, of which between 33,500 and 35,000 already work in hospitals. About 3,000 to 3,500 PAs, NPs, and CNMs (plus about 3,200 CNSs) graduate annually.

Anecdotal reports suggest that demand for NPPs is already outstripping supply. Hospitals report that vacancy rates for PAs are growing, up from about 10 percent in 1989 to almost 13 percent in 1991 (Pinckney 1992). Even with its longstanding surgical residency for PAs, Montefiore Medical Center in New York has had a difficult time recruiting PAs to fill its 150 authorized positions (Cawley 1992). And while Strong Memorial Hospital is seeking to expand its successful use of nurse practitioners in neonatal intensive care, clinical staff believe that it will be hard to find six additional NPs (Schultz 1992). This is consistent with national reports that four and seven jobs, respectively, are now available for every nurse practitioner graduate and physician assistant graduate (OTA 1990). Whether NPPs would be willing to accept jobs created by the loss of residents will depend upon the competitiveness of salaries and the attractiveness of these positions relative to other opportunities.

Other Institutional Strategies. In addition to giving more responsibility to nonphysician practitioners, a number of teaching hospitals have tried other strategies to ensure service coverage for units previously staffed by residents. At the Medical College of Virginia, for example, attending physicians now assume primary responsibility for 20 percent of the hospital's medical beds. This nonteaching service was developed as one of several curriculum experiments designed to increase residents' training time in ambulatory settings, reduce inpatient clinical service demands, and mitigate stress. Patients are admitted to the nonteaching service if their care has less educational value for residents; many are admitted for special procedures that require minimal stays. Faculty physicians receive backup support from nurse practitioners, subspecialty fellows, and senior residents who are freed from other responsibilities and paid extra for their services (Fallon 1992).

These experiences suggest that teaching hospitals can continue to meet their service needs even when the number of residents or residents' work hours are constrained by external forces. But the transition to new staffing and scheduling arrangements takes time and money.

¹⁶ Estimates were based on a time-motion study at two large New York teaching hospitals where residents spent about 75 percent of their time providing direct patient care. Using a model in which NPPs would assume responsibility as hour-to-hour managers of patient care, working with physicians to develop and implement a medical plan for each patient, the study found 35 percent of residents' time could be assumed by NPPs and 11 percent by other hospital personnel, while 20 percent would have to be assumed by staff physicians (Knickman et al. 1992). Because residents generally work twice as many hours per week as NPPs, these estimates suggest that 0.7 FTE NPPs would be required to replace each resident.

In New York, implementation of resident work hour regulations, coupled with new requirements for continuous supervision of residents and 24-hour availability of intravenous, phlebotomy, and messenger/transport services, has cost approximately \$225 million; this figure represents about a 2 percent increase in total hospital expenditures (New York State Council on Graduate Medical Education 1992; Thorpe 1990).

Payment for Transitional Relief. The Commission recommends that a portion of funds from the payer pool be made available to institutions that downsize or close residency positions but still have essential service needs that must be met, at least in the short term. The Commission's estimate of limits on the total number of residents on the Medicare program indicated that it would save about \$483 million in Medicare payments to hospitals (about 10 percent of total payments). Of this, \$165 million would be saved in direct medical education payments and \$318 million in indirect adjustments. Making a portion of these funds available to teaching hospitals for perhaps two to three years would provide a cushion during which teaching services could be reconfigured, restaffed, or closed.

Transitional relief funds could be channeled by a formula related to the number of residents per occupied bed or by extending payments for the initial complement of an institution's residents (even though some or all of those positions would be eliminated) much as the federal government pays farmers for not cultivating certain crops. Unlike farm subsidies, however, continued GME payments would be time-limited.

To be effective and equitable, transitional relief should be available only to institutions meeting certain criteria. For example, payments should be made only to those that actually lose residents, not just those that have positions that were not funded by the payer pool. Institutions serving indigent populations should be given preferential consideration.

In addition, it may be desirable to expand existing federal programs that support nonphysician training to increase the supply of NPs, CNSs, and PAs trained to staff tertiary care centers. These include institutional grants, student loans and scholarships, and the National Health Service Corps. Many of these programs lost substantial funding during the early 1980s and have not yet been restored to their previous funding levels. Federal funding for PA training in fiscal year 1992, for instance, was only about 55 percent of the fiscal year 1980 level (CRS 1991; HRSA 1992). Expanded support should be structured to ensure that a sufficient number of graduates accept jobs created to meet service needs previously met by residents.

IMPLICATIONS OF THE COMMISSION'S APPROACH

Federal policies are needed that not only signal preferences but also lead directly to reductions in resident supply, changes in specialty mix, and additional training opportunities in ambulatory settings. A process that restricts the total number of residency positions and

links the clout of public financing with informed decisionmakers within the medical profession will help achieve these goals.

The Commission recognizes, however, that there are limits to what these proposed reforms in GME financing may accomplish. Goals could be subverted if residencies not approved for funding from the payer pool are financed from other revenue sources. This has already happened in New Jersey where, under the state's all-payer hospital rate-setting authority, the number of residencies was capped at 2,610 in 1986. Since then, 200 additional positions have been created, all financed from faculty practice plans and grants (Advisory Graduate Medical Education Council of New Jersey 1991).

A number of steps could be taken to prevent programs from financing positions beyond the statutorily set limit. Ideally, residency review committees would only accredit positions funded from the payer pool. Students would accept unaccredited positions at their own risk as they would be unable to sit for specialty boards. There is no obvious legislative lever, however, to compel accreditors to do this. Financial penalties could be imposed on institutions creating or continuing positions not approved for funding from the payer pool. Funding could be reduced for every unapproved slot, for example. This would be similar to the approach used in Quebec, where the number of ministry-funded positions has been reduced for each nonministry-funded position created (Ryten 1991). Similarly, the state of New Jersey has plans to reduce payments for the state corollary of Medicare's indirect medical education adjustment; these hospitals stand to lose up to \$200,000 per resident exceeding the cap (Vaun 1992). Other alternatives might include making programs that fund residencies outside the system ineligible for any funding from the pool or making the institutions where these residents train ineligible for Medicare participation.

The Commission also recognizes that GME financing is only one of many factors affecting the supply and specialty distribution of physicians. Although the availability of training in any field will clearly influence students' career decisions, specialty choice and practice location are also affected by other factors. These include expectations of income; perceptions about the prestige, intellectual content, and quality-of-life aspects of particular fields; undergraduate and medical school experiences; and sociodemographic characteristics and personality traits. Thus, achieving policy goals will also require changes in both medical education and the practice environment to complement reforms in graduate medical education financing.

Of particular concern to many organizations that follow the Commission's work is the need for policies that will make primary care careers more attractive. These include rewards for primary care practice in the form of equitable payment and for primary care academicians in the form of sufficient research funding. Such policies would send a message to medical students that primary care careers are as intellectually challenging, financially rewarding, and important to society as those in subspecialties.

The federal government can clearly effect change in some of these areas. The Commission is optimistic that adoption of a resource-based method for calculating the practice expense component of the Medicare Fee Schedule will improve Medicare payments for primary care physicians. Adoption of the fee schedule by other payers will also enhance relative incomes.¹⁷ In addition, the Commission has long supported increased funding for the Agency for Health Care Policy and Research, an important source of funding for primary care research.

Some have also suggested that the federal government undertake a broad-based program of loan forgiveness for students entering primary care fields, arguing that the increasing debt associated with medical education discourages entry into these specialties. Although the Commission is concerned about the effects of indebtedness, it does not find support in the literature for a systematic relationship between debt and specialty choice (Bazzoli 1985; Dial and Elliott 1987; Hughes et al. 1991). The Commission's primary concern is the ability of residents to pay back their loans while they are still in training. Deferral of repayment until training is completed or graduated amortization schedules under which monthly payments would increase as incomes grow would be appropriate responses to this problem. In addition, the Commission continues to support strongly expansion of the National Health Service Corps.

Other changes are less amenable to federal policy, particularly given the limited resources available for new initiatives. Medical educators thus must take it upon themselves to foster student and faculty development in primary care. Promising strategies include preclinical exposure to primary care, family medicine clerkships, preferential admissions policies, and appointment of primary care faculty to key administrative posts.

Finally, changes in GME financing, however extreme, will take many years to affect the national stock of physicians. This is because physicians have unusually long work lives; the average 35-year-old physician can expect to practice almost to the age of 70 (Kletke et al. 1987). COGME estimated that even if 70 percent of those entering training in 1993 took residencies in generalist fields, only about 43 percent of physicians would be generalists in 2020 (COGME 1992). The length of time required to change specialty distribution suggests that efforts to retrain physicians already in practice may also be needed to achieve policy goals within a reasonable period. In the year ahead, the Commission will consider retraining in greater depth. Issues of interest include the incentives and penalties for pursuing such training, its financing, and appropriate policy levers.

¹⁷ For a more detailed discussion of the Commission's work in these areas, see Chapters 7 and 8.

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BENEFICIARIES AND THE MEDICARE FEE SCHEDULE

The legislation establishing Medicare physician payment reform called for timely monitoring of the impact of reform on Medicare beneficiaries. The Omnibus Budget Reconciliation Act of 1989 (OBRA89) directs the Secretary of Health and Human Services to report to the Congress annually on changes in beneficiaries' use of services and access to care, as well as changes in beneficiaries' financial liabilities arising from this care. The Commission is to comment on the Secretary's reports and to offer recommendations to the Congress in these areas.

This chapter presents an overview of the initial impact of the fee schedule on use of services and access to care. The chapter also summarizes changes in balance billing, participation, and assignment between 1991 and 1992, and sketches Medicare's new system to monitor compliance with the OBRA89 limits on balance billing. A much more detailed analysis of access and beneficiary financial liabilities will be presented in a separate Commission report to be issued on May 15, 1993.

Before the implementation of the fee schedule, the average Medicare beneficiary had good access to care. Most beneficiaries reported no difficulty in obtaining timely care from a physician, and most physicians accepted Medicare patients. Analysis of claims data indicated, however, that certain disadvantaged populations — black beneficiaries, beneficiaries residing in urban poverty areas and urban Health Professional Shortage Areas (HPSAs) — showed evidence of inadequate access to care (PPRC 1992b).

A survey of physicians conducted by the Commission between July and September 1992 showed that access remained good, on average, through the early implementation of payment reform.¹ At the time of the survey, nearly all physicians were accepting new Medicare patients. While a number of physicians reported spending less discretionary time with patients and their families, most said that they had done so for all patients, not just for Medicare beneficiaries.

Data from early 1992 also show a continuation of recent trends in balance billing, participation, and assignment. Total balance billing amounts fell, while on a dollar-weighted basis both participation and assignment continued to increase. A new Medicare system now monitors compliance with the balance billing limits and notifies both physicians and beneficiaries when overcharges occur.

¹ See Chapter 6 for a full description of this survey.

While these indicators are reassuring, access to care will remain an important issue. Payment reform may have impacts that are not evident initially. Moreover, payment reform may have done little to help those populations most vulnerable to a loss of access. The Commission will continue to monitor beneficiaries' access to care as the Medicare Fee Schedule is put into place.

THE COMMISSION'S PRIOR WORK ON ACCESS TO CARE

The Commission's work on Medicare beneficiaries' access to care began in earnest in 1991 with the formation of the Advisory Panel on Access. The panel consists of 11 experts in the area of access to care, including physicians, beneficiary advocates, and health services researchers.² The panel meets twice a year to provide the Commission with expert guidance in the area of access to care and to help the Commission formulate its comments on the Secretary's annual report on Medicare beneficiaries' access.

The Commission issued its first report on access to care on May 15, 1991 (PPRC 1991). That report was essentially a work plan, which outlined a strategy for monitoring use of services, hospitalizations, mortality rates, and other health care statistics for beneficiary populations thought to be most vulnerable to a reduction in access to care. These vulnerable populations include socioeconomically disadvantaged groups, those in fragile health, and beneficiaries living in areas where Medicare fees were to be reduced under the Medicare Fee Schedule.

The Commission's 1992 report on access implemented this work plan using Medicare claims data from the period prior to the introduction of the Medicare Fee Schedule (PPRC 1992b). Service use, process of care, and outcomes were analyzed using claims and enrollment data for approximately 1.5 million beneficiaries for the period 1986 through 1990. This baseline analysis served both to document access problems that existed prior to payment reform and to demonstrate the feasibility and validity of a claims-based approach to monitoring access to care.

Problems obtaining access to care were most evident for three vulnerable populations: black beneficiaries, beneficiaries residing in urban high-poverty areas, and beneficiaries residing in urban HPSAs. These three populations exhibited a combination of low service use, poor process of care, and below-average health outcomes. These beneficiaries were less likely ever to see a physician during the year. Use of preventive services such as pneumonia vaccines and Pap smears was far below average. Substandard process of care was evidenced by a heavy reliance on hospital emergency rooms and outpatient departments for primary care services. Outcomes such as outlier hospital stays and mortality rates were significantly worse than average.

² Panel members are Perham Amsden; Geraldine Dallek; Charles H. Epps, M.D.; Lynn Etheredge; Harold P. Freeman, M.D.; Lucian Leape, M.D.; Steven H. Long, Ph.D.; Nicole Lurie, M.D.; Ira Moscovice, Ph.D.; Martin F. Shapiro, M.D.; and Barbara Yawn, M.D.

The Commission noted several steps the federal government might take to improve the health care of these beneficiary groups. The Medicare program already provides a key factor in obtaining access to care: health insurance. Beyond its role as insurer, however, Medicare might take a more direct role in improving access for disadvantaged beneficiaries. Policies could be developed to address problems such as the lack of a usual source of care, the use of emergency departments for primary care services, and the lack of preventive care among vulnerable populations.

More broadly, the federal government might increase its role in directly filling gaps in the delivery system. Programs such as support for community health centers and the National Health Service Corps can make personnel and facilities directly available to the disadvantaged. Finally, the federal government might increase support for research on the barriers to access, including adequate funding of a recent Health Care Financing Administration (HCFA) research solicitation in this area.

In its 1992 report on access, the Commission also offered several ways in which the Secretary's annual report on access might be improved. Briefly, the Secretary presented data on individual services rather than profiling the service patterns of populations. Data were not adjusted for differences in the age and sex mix of various beneficiary groups, and virtually no indicators of process or outcome of care were presented. An integrated view of all service use by beneficiaries would provide a more complete picture on shifts in service use and access to care.

THE COMMISSION'S CURRENT WORK ON ACCESS TO CARE

This year, the Commission broadened its strategy for monitoring access to care. Last year's analysis will be updated using 1991 and 1992 data. In addition, however, the Commission undertook four new projects to assess use and access during implementation of the Medicare Fee Schedule.

Four timely sources of information were used. First, data from the fall 1991 round of the Medicare Current Beneficiary Survey (CBS) were used to characterize the state of Medicare beneficiaries' access to care just before implementation. Second, the Commission surveyed physicians to assess attitudes toward the Medicare program and acceptance of Medicare patients. The Commission also surveyed organizations likely to receive beneficiaries' complaints regarding access to care. Finally, a preliminary analysis of claims data examined changes in the rate of use of services.

Current Beneficiary Survey

In the fall of 1991, before the implementation of the Medicare Fee Schedule, HCFA fielded the first round of the CBS, including a supplement on access to care. In this section, analyses of responses to some of the questions both for all beneficiaries and for subpopulations are

presented as a baseline. Additional baseline analyses will be prepared for the Commission's access report. Next year, results from the 1991 CBS will be compared with those from the 1992 CBS as one way to monitor the impact of the fee schedule on access.

Background. The CBS is a longitudinal survey of approximately 12,000 Medicare beneficiaries who are interviewed three times per year. These survey responses can be linked to respondents' Medicare Part A and B claims records. The oldest-old (those over 85) and the disabled under 65 years old were oversampled because, otherwise, the sample size would be too small to draw policy and research conclusions about these populations.

Although the CBS has multiple policy and research purposes, the Commission is mainly interested in it as an instrument to measure access for Medicare beneficiaries. In the first round of the CBS, a number of direct measures of access to care and perceptions about care were collected. The ability to examine responses to different measures of access makes the CBS a particularly valuable resource; similar results from different survey questions and claims data lend additional power to the conclusions.

The CBS contains both direct and indirect measures of care. An important direct indicator of access is the setting for the usual source of care. This is because care provided by a physician in the office improves the potential for preventive care and ensures better continuity of care than that provided in an emergency room. Similarly, continuity is also enhanced if the beneficiary regularly sees the same physician in any setting. In contrast, increased use of emergency rooms by Medicare beneficiaries would be an indicator of access barriers. Using the CBS, it is possible to measure both whether the site of the usual source is the physician's office and whether the beneficiary sees a particular physician at another setting. Other direct measures of access include questions about whether beneficiaries had trouble obtaining care and whether they delayed care because of cost.

Patient satisfaction and perceptions about quality are considered indirect indicators of access; questions on satisfaction have been used to track the quality of and access to care, especially in managed care settings. It is assumed that when there are barriers to care, beneficiaries will express dissatisfaction with the care provided.³ Since the CBS contains several questions on satisfaction with various aspects of care that are highly related, seven questions were scaled into one measure for this analysis.⁴

³ As discussed in the section on beneficiary complaints below, it is always possible that some beneficiaries are dissatisfied but are either unwilling or unable to express their dissatisfaction.

⁴ Respondents were asked to rate their satisfaction with quality of care, availability of care at night or on weekends, information given by the physician, follow-up care, concern of physicians with overall health, ease of getting to physician, and getting care at the same location.

Likewise, questions on the beneficiary's perception of quality of the usual source of care can shed light on the adequacy of access. These indicators include whether the physician is in a hurry, or if the physician does not take the time to explain problems or answer questions. For this analysis, eight questions were scaled into one measure representing beneficiaries' perception of their usual source of care.⁵

Since the purpose of this analysis is to monitor the impact of the Medicare Fee Schedule on access to care, only responses for those beneficiaries who have chosen fee-for-service care are included in the following analysis. Beneficiaries in long-term care facilities were excluded because they were not asked these access questions.⁶

Results on Access to Care. As indicated by Medicare beneficiaries' responses, access to care for most beneficiaries is excellent (Table 5-1). Eighty-six percent of beneficiaries either obtained their usual source of care in a physician's office or, if they obtained care in another setting, they usually saw a particular physician. Fully 86 percent said that they did not delay care in the last year because of cost. Nearly all said that they had no trouble getting care in the last year (96 percent), they were satisfied with the care they received (95 percent), and had a positive view of the quality of care provided by their usual source (95 percent).

Although overall access is perceived to be excellent, some beneficiaries have more difficulty than others in obtaining medical care. Identifying populations who had more difficulty obtaining access before the implementation of the fee schedule is important because these groups may be at most risk of experiencing changes in access as a result of payment reform. Their subsequent experience may provide an early warning about effects of the fee schedule.

Analysis of the CBS shows differences that generally support the previous analysis of claims which found that blacks had less access to care than others (Table 5-1). On four of the five measures of access, blacks and other nonwhites report significantly lower levels of access. On the fifth measure, perceptions of care, blacks and whites are similar, while those of other nonwhites are less positive. If satisfaction is disaggregated, whites are more likely than blacks to be very satisfied (23 percent of whites versus 11 percent of blacks).

⁵ These eight questions ask respondents whether they consider that their physician is very careful to check everything when conducting an examination, is competent and well-trained, has a good understanding of their medical history and problems, communicates well about the condition and treatment, and answers all questions. Finally, respondents were asked whether they have confidence in the physician and whether they depend on the physician to feel better.

⁶ The CBS includes different questionnaires for beneficiaries in the community and beneficiaries in long-term care facilities. Beneficiaries living in the community generally answer the questions themselves and are asked an entire series of questions on access to care. For beneficiaries in facilities, the access questions are omitted and the survey is always answered by an employee of the facility. (It was thought that this would significantly improve the response rate for these beneficiaries.) Although the institutionalized population does not answer the CBS access questions, the Commission's report on access will examine their access to care by analyzing their use of services.

Responses of Hispanics also indicate greater problems with access than for others. Analyzing the direct measures of access (usual source of care, delay care, and trouble getting care), the differences between Hispanics and others are statistically significant. In contrast, the indirect measures do not show differences between Hispanics and others.

Table 5-1. Percentage of Medicare beneficiaries who reported acceptable access, 1991

Characteristic of beneficiary	Usual source of care in office or with particular physician	Never delayed care	Never had trouble getting care	Satisfied with care	Positive perception of care
All beneficiaries	86	86	96	95	95
Race					
White	88 ^a	86 ^a	96 ^a	95 ^a	96
Black	78 ^a	81 ^a	94 ^a	93 ^a	96
Other	77 ^a	79 ^a	90 ^a	90 ^a	92
Ethnicity					
Hispanic	76 ^a	81	91 ^a	93	96
Other	87 ^a	86	96 ^a	95	94
Medicaid eligible					
No	87 ^a	86 ^a	97 ^a	95 ^a	96
Yes	83 ^a	82 ^a	91 ^a	93 ^a	95
Lives in Health Professional Shortage Area					
No	87	86	96	95	95
Yes	82	82	95	94	95
Lives in zipcode with poverty population					
<30%	87 ^a	86	96	95	95
≥30%	78 ^a	84	95	95	96
Geographic area					
Urban	86	87 ^a	96	95	96
Rural	87	83 ^a	95	95	95

^aChi-square significant at 0.05 level.

Source. Commission analysis of Medicare Current Beneficiary Survey data.

Medicare beneficiaries who are dually eligible for Medicaid report more access problems than other Medicare beneficiaries. On four of the five access questions, there were significant differences between these groups. Of particular concern is that dual eligibles, who are usually sicker than other beneficiaries, report more problems with access to care. The Commission's analysis of claims indicated that dually eligible beneficiaries used more services and had worse outcomes (PPRC 1992b).

Beneficiaries living in areas with high poverty rates and in HPSAs are less likely to receive their care in a physician's office or through a particular physician. Yet on all other measures of access they report access similar to those living in other areas.

As indicated by the CBS, there are few significant differences in access between urban and rural beneficiaries. Rural beneficiaries are more likely than those living in urban areas to delay care because of cost. When satisfaction with care is disaggregated, urban beneficiaries are more likely than rural beneficiaries to be very satisfied (23 percent versus 18 percent). The same pattern holds for having a positive perception of the usual source of care (25 percent versus 18 percent).

Results from the Commission's Survey of Physicians

The Commission contracted with Louis Harris and Associates to survey 1,000 physicians regarding their attitudes toward Medicare and other payers, recent changes in practice style, and other aspects of the delivery and financing of medical care. The survey was administered by phone from July to September 1992, roughly halfway through the first year of implementation of the Medicare Fee Schedule.⁷ This section relies on analysis of the survey to determine physicians' acceptance of new Medicare patients and their willingness to spend time with those patients.

In general, physicians continued to provide a high level of service to Medicare beneficiaries and accepted Medicare rates as payment in full for their services. Nearly all physicians report that they accept new Medicare patients. Many physicians reported spending less discretionary time with patients and their families now compared to three years ago, but this change was reported for all patients, not solely those covered by Medicare.

Accepting New Medicare Patients. The implementation of the Medicare Fee Schedule has not caused many physicians to close their practices to Medicare patients. Of those physicians responding to the Commission's survey, 94 percent were accepting new patients into their practices. Of these, the proportion of physicians accepting new Medicare patients (94 percent) was roughly the same as those accepting new privately insured fee-for-service or preferred provider organization (97 percent), or self-paying patients (96 percent). By contrast, about a third of the physicians seeking new patients were not accepting new Medicaid, charity, or patients insured under capitated arrangements.

The few physicians who were selectively not accepting new Medicare beneficiaries in 1992 (while accepting other types of patients) devoted a smaller percentage of their practices to Medicare patients compared to other physicians. This suggests that even before the Medicare Fee Schedule was implemented they had smaller Medicare practices. Two-thirds of these

⁷ A more complete description of the survey and additional results from the survey are presented in Chapter 6. Only those questions most directly relevant to access to care are presented here.

physicians had accepted new Medicare patients in 1991, but it is not known how this number compares to the fraction of physicians who stopped accepting new Medicare patients in previous years.

It would be prudent to monitor this phenomenon in the future to ensure that it does not become a problem for Medicare beneficiaries. Currently, however, physicians who selectively closed their door to Medicare patients in 1992 comprised less than 5 percent of all physicians surveyed.

Spending Time with Medicare Patients. It is also important to know whether physicians are treating their current Medicare patients any differently, for instance, by spending less time with them than before. The changes revealed by the survey are of some concern, but it is impossible to tell at this point what impact the Medicare Fee Schedule is having, whether positive or negative, on the situation. These trends should be monitored in the future.

About one-fourth of physicians say that, compared to three years ago, they are spending less discretionary time with patients and families during visits, spending less time answering patient and family questions over the telephone, and more often referring patients to other sources of care after hours. Primary care physicians were significantly more likely than others to be spending less time on the phone and to be referring more often after hours.

The vast majority of the physicians who have made these changes did so for all types of patients they treat. About one-fifth of them, however, selectively changed their practice in this manner for Medicare patients. This is significantly greater than the proportion who selectively changed these practices for patients of other payers, including Medicaid, private insurers, and health maintenance organizations. Relatively few physicians singled out Medicare patients for these changes (only 6 percent of all physicians surveyed), but the fact remains that appreciable numbers of physicians have changed their practices in these ways over the past three years. Many of them had made these changes before the Medicare Fee Schedule was implemented. Future studies may help determine whether the Medicare Fee Schedule is affecting this trend.

Informal Survey of Beneficiary Complaints on Access

In the summer of 1992 and again in January 1993, the Commission conducted an informal survey of organizations that would be likely to receive complaints from beneficiaries if access problems arose. The underlying idea was simple: if access to care were seriously compromised, the volume of complaints should increase. A persistent increase in the number of complaints may indicate a reduction in access to care.

Four types of organizations were surveyed: HCFA, the American Association of Retired Persons (AARP), state agencies on aging, and congressional offices. The first two provide a national perspective, while the latter two provide information about access in specific

locations. The survey was repeated for those geographic areas with an increased volume of complaints.

In general, Medicare beneficiaries registered few or no complaints regarding access to care. The 1992 survey identified small increases in complaint volume in urban areas of Florida and Texas, and a significant increase in complaints from northeastern rural California. Complaints peaked in the summer of 1992 and had tapered off or stopped by January 1993.

Any conclusion drawn from complaint data has the potential for false negative findings. It is unclear whether beneficiaries know where to lodge a complaint, or whether the receiving organizations track complaints well. As far as these data show, however, there were only temporary and limited disruptions of access during the early implementation of physician payment reform.

Methods. In the summer of 1992, the Commission surveyed four sources: HCFA, the AARP, state agencies on aging, and House and Senate offices. Due to time constraints, agencies on aging and congressional offices were contacted only in the 10 states with the highest number of Medicare enrollees.⁸ Each source was polled by telephone. The interview protocol asked whether the organization tallies or otherwise tracks complaints from beneficiaries, whether complaints are categorized by type, and whether the number of complaints had increased since January 1992.

Health Care Financing Administration and the American Association of Retired Persons. Commission staff contacted HCFA and the AARP to gain a broad perspective on the level of Medicare beneficiary complaints nationally. HCFA has a standing order for carriers to forward mail relating to the loss of access to the Bureau of Program Operations and to the Office of Research in Baltimore. The AARP, in response to the Commission's inquiries, established a formal system for tracking and tabulating letters of complaint from beneficiaries.

Neither organization received many complaints about access from Medicare beneficiaries. When surveyed in the summer of 1992, HCFA officials reported that they had received "a handful" of complaint letters from Medicare beneficiaries. They did not indicate any widespread problems. HCFA officials reported that form letters from a single Texas ophthalmologist accounted for most of the complaint letters received. Statistics from AARP show that between October 1991 and October 1992, the organization received a total of 76 letters in which beneficiaries complained about physicians dropping them or refusing to take them. Of these, 10 letters cited the Medicare Fee Schedule as the physician's reason for refusing to accept a Medicare patient.

⁸ These states are California, Florida, Illinois, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas.

State Agencies on Aging. State agencies on aging are a logical channel for beneficiaries' complaints.⁹ Each of these state-level resources for the elderly offers a toll-free number which the elderly or their advocates may call.

In the majority of the states, calls and letters are not formally tracked or tallied, although a few agencies file complaints into broad categories. The responses given to the Commission's questions were based on the impressions and experience of the person responsible for correspondence within the agency.

Of the 10 states polled, only Texas noted an increase in complaints. The Texas state Agency on Aging reported that since January 1992, it had received both letters and telephone calls from beneficiaries complaining that they were losing access to their physicians and were unable to find physicians who would accept Medicare. The other nine states polled had not received any complaints of this nature.

House and Senate Offices. House and Senate offices were contacted as a follow-up to the survey of state agencies on aging. Information from congressional offices could supplement and possibly reinforce the reports from these agencies.

Commission staff called the offices of all senators, and a sample of representatives from each of the 10 states noted above. Representatives were chosen to represent both urban and rural areas, as well as both political parties. Legislative assistants were asked about the volume of correspondence from Medicare beneficiaries and about the number of complaints relating to access. As with the state agencies on aging, questions were answered based on the knowledge of the congressional staff person responsible for correspondence.

Four states in particular were targeted: California, Florida, New York, and Texas. Commission staff contacted a disproportionate number of House offices in these four states. These states were considered more likely to experience access problems based on simulations that predicted substantial fee reductions in these areas.

Commission staff found very few or no complaints about access except in California, Florida, and Texas. In urban areas of Texas and Florida, and in rural parts of California, beneficiaries had been relatively active in writing to complain to their congressional representatives. The greatest activity was in northeastern rural California, where several hundred beneficiaries had sent letters to two representatives. In Texas and Florida the volume was smaller, around 50 letters, and was considered by congressional staff a noticeable, but not alarming, volume of

⁹ These agencies were created under the Older Americans Act (OAA) of 1965. The OAA mandated that each state create an agency on aging, which would channel federal funds to local Area Agencies on Aging according to population density within the state. These local agencies organize and provide services such as meals-on-wheels and home care, and act as clearinghouses for information about housing, health, Medicare, and other issues of importance to the elderly.

mail. Reports from congressional offices in the other states surveyed indicated that there had been no complaints about access so far.

Beneficiaries in northern California seem to have raised the most concern about the effects of the fee schedule on access. Congressional staff from the two districts having the majority of the complaints said that beneficiaries had complained that their physicians were no longer accepting Medicare patients. Many letters also expressed the fear that physicians will be driven away from the area because of the changes in payment. Unlike other parts of the country, the complaints from northern California did not appear to be form letters but instead were letters written by individual beneficiaries.

During the Commission's resurvey in 1993, however, members of Congress from the affected districts reported that complaints from Medicare beneficiaries had virtually ceased. This suggests that the problems noted during the early implementation of the fee schedule were temporary in nature.

Changes in Service Use Between 1991 and 1992

Claims data from the first six months of 1992 show that Medicare beneficiaries continue to receive increasing numbers of services. The rate of growth in the quantity of care per beneficiary was somewhat lower than recent trends, but this seems unrelated to changes in fees. These data suggest that Medicare fees, at least in the short run, remain sufficient to purchase the care beneficiaries need.¹⁰

Methods. Medicare beneficiaries' service use during the first half of 1992 was contrasted to service use during the first six months of 1991.¹¹ Data consist of all physicians' services claims for a 5 percent sample of beneficiaries. Claims were tabulated by the geographic area (carrier) in which services were delivered, and all analysis was done based on the location in which the service was performed.¹²

Two factors add a large measure of uncertainty to the data presented here. First, the 1992 codes for visits and consultations are completely different from those used in 1991. To analyze the data, the old codes were matched to the new ones using a crosswalk developed by HCFA.

¹⁰ This analysis averages across all beneficiaries. The Commission's May 15 report on access will examine various vulnerable populations separately.

¹¹ The Commission's ability to analyze 1992 claims in its 1993 report is a direct benefit of HCFA's new National Claims History (NCH) system. Prior to the NCH, 1992 data would not have been available until late 1993. With the NCH, however, HCFA receives all Part B claims in a timely fashion. Through a significant effort on the part of HCFA Bureau of Data Management and Strategy staff, the Commission now receives a sample of claims data as they are processed each quarter.

¹² The locality in which the service is delivered sometimes differs from the locality in which the beneficiary lives because beneficiaries, particularly those in rural areas, sometimes travel some distance to see a physician.

Inaccuracy in this crosswalk and variations in use of the old codes add a significant margin for error in the analysis of changes in visit services. Second, these files are incomplete, including only those claims processed through November of each year.¹³ Analysis of claim processing times shows that the files are roughly equally complete. Estimated growth in the quantity of care will, however, reflect both the true change in the quantity of services delivered and any small residual variations in the completeness of the files due to claims runout.¹⁴

Two measures of service use were calculated. The first is the percentage change in the total quantity of care. To construct the index, counts of services are weighted in proportion to the payment rate for the service. For example, a \$1,000 cataract surgery would be weighted as heavily as ten \$100 consultations. This quantity index captures changes in the total number of services as well as changes in the mix of services.¹⁵

In addition, simple counts of services are also tabulated. These data may be particularly useful when examining changes in the total quantity of visit services. As noted above, analysis of the quantity of visits relies on a potentially inaccurate crosswalk from the old to the new visit codes. The count of visits, by contrast, does not rely as heavily on the crosswalk. So long as the crosswalk captures an entire class of codes, a count of services should provide a good indicator of changes in the level of care.¹⁶

Results. Across all services, the total quantity of care per beneficiary increased 5.2 percent between 1991 and 1992 (Table 5-2). Nearly all service groups showed increases, with the exception of routine diagnostic radiology and emergency room visits.¹⁷ By and large, procedures continued to grow rapidly despite significant fee reductions, while visit services tended to grow quite slowly.

This rate of growth is somewhat slower than the recent trend, but is well within historical norms. The growth rate for the five years ending in 1991 was 8.1 percent, 2.9 percentage points higher than shown by the mid-year 1992 data. The annual rate of growth in quantity of services

¹³ This cutoff was necessary because the most recent 1992 data included only those claims processed through November 1992.

¹⁴ A number of other factors also lead to some uncertainty, including changes in the global surgical service period and the bundling of certain services into the office visit.

¹⁵ Quantity growth is measured by asking how much outlays would have risen if prices had been frozen. This is computed directly from data on individual services, calculating the total cost of 1992 services at 1991 prices, then comparing this to actual 1991 outlays.

¹⁶ For office visits, for example, the accuracy of the quantity index depends on each old code being accurately mapped to a new code. By contrast, a count of services will provide a good measure of physician contacts so long as all office visits under the old system are recorded as office visits under the new system. A more complete description of the crosswalk from the old to the new visit codes can be found in Chapter 6.

¹⁷ The emergency room visit figures may reflect a change in the coding of emergency services, however.

tends to be quite volatile, however. For example, in the 10 years ending in 1988, annual growth rates ranged from 3.4 percent to 10.3 percent (PPRC 1990). Similarly, in the five years ending in 1986, quantity of care per beneficiary grew 6.4 percent per year (PPRC 1990).

Table 5-2. Change in payment per service and service use per beneficiary for selected services, 1991-1992^a

Percent change, except as noted

Type of service	Payment per service	Volume	Count of services	Percent of 1992 physicians' services outlays
All services	-3.0	5.2	2.7	100
Cardiac procedures				
Angioplasty	-13.4	23.7	26.5	0.6
Cardiac catheterization	-9.6	12.5	19.1	1.7
Endoscopy				
Lower gastrointestinal	-13.4	3.8	-1.9	1.5
Upper gastrointestinal	-12.7	3.9	2.4	1.0
Other	-9.5	3.4	2.3	1.3
Surgery				
Arthroscopy	-13.3	15.5	13.4	0.2
Joint prosthesis	-12.7	14.6	13.6	1.3
Cataract lens replacement	-12.3	3.8	3.5	4.2
Coronary artery bypass graft	-13.9	10.4	14.5	1.2
Radiology				
CAT scans	-9.3	5.7	7.5	1.7
Magnetic resonance imaging	-7.4	25.5	16.4	1.0
Mammography, all	-6.8	4.4	8.7	0.5
Other diagnostic	-8.4	-6.6	1.9	3.8
Visits				
Office	4.5	3.1	2.0	14.7
Hospital	7.0	5.1	0.9	11.3
Nursing/rest home	11.2	0.0	5.3	1.3
Emergency room	13.0	-7.7	-3.4	1.8

^aData are for a 5 percent sample of beneficiaries for the first six months of the year.

Source. Commission analysis of 1991 and 1992 National Claims History data.

A better approach to assessing the impact of fees on access to care is to analyze the data separately by Medicare carrier area.¹⁸ For each group of services (and for total services), carriers were divided into thirds based on the size of the change in average fee per service

¹⁸ Carrier areas typically correspond to states.

between 1991 and 1992. The areas with the largest, average, and smallest fee reductions were then contrasted in terms of growth in quantity of care and number of services per beneficiary.

This analysis offers little support for the notion that fee reductions have begun to limit access to care (Tables 5-3 and 5-4). Across all services, quantity growth was highest in those areas experiencing the greatest fee cuts. Many (but not all) categories of service exhibit this pattern, with high fee reductions being accompanied by high quantity growth.¹⁹

Table 5-3. Change in quantity of services per beneficiary in areas with small and large payment changes, for selected services, 1991-1992^a
Percent change in quantity of services

Type of service	Largest reduction or smallest increase	Average reduction or average increase	Smallest reduction or largest increase
All services	8.2	4.0	5.6
Cardiac procedures			
Angioplasty	32.9	15.9	25.2
Cardiac catheterization	8.2	9.6	21.6
Endoscopy			
Endoscopy, lower gastrointestinal	5.0	7.4	1.0
Endoscopy, upper gastrointestinal	8.5	9.0	-3.5
Endoscopy, other	6.2	3.4	3.0
Surgery			
Arthroscopy	42.8	18.0	-3.2
Joint prosthesis	14.0	22.0	10.0
Cataract lens replacement	9.0	10.0	-3.5
Coronary artery bypass graft	24.8	11.4	0.0
Radiology			
CAT scans	7.2	3.9	8.2
Magnetic resonance imaging	21.4	28.7	29.0
Mammography, all	1.5	6.3	7.4
Other diagnostic	-4.1	-5.4	-8.5
Visits			
Office	6.9	4.1	1.1
Hospital	8.8	3.6	5.1
Nursing/rest home	4.1	0.1	-2.4
Emergency room	-5.1	-3.8	-11.8

^aData are for a 5 percent sample of beneficiaries for the first six months of each of the two years.

Source. Commission analysis of 1991 and 1992 National Claims History data.

¹⁹ This suggests that, at least at current fee levels, part of the fee reductions are being offset through increased volume of services. The issue of volume offset is examined in greater detail in Chapter 6.

Table 5-4. Change in number of services per beneficiary in areas with small and large payment changes, for selected services, 1991-1992^a
Percent change in count of services

Type of service	Largest reduction or smallest increase	Average reduction or average increase	Smallest reduction or largest increase
All services	6.1	0.8	3.5
Cardiac procedures			
Angioplasty	39.0	16.6	25.5
Cardiac catheterization	12.9	22.2	26.0
Endoscopy			
Lower gastrointestinal	-2.2	0.4	-2.3
Upper gastrointestinal	6.3	7.6	-4.5
Other	3.9	2.6	2.4
Surgery			
Arthroscopy	40.0	22.3	-8.7
Joint prosthesis	13.8	19.3	9.9
Cataract lens replacement	8.9	9.7	-3.8
Coronary artery bypass graft	30.1	15.9	3.6
Radiology			
CAT scans	9.7	6.8	7.9
Magnetic resonance imaging	14.1	18.0	19.6
Mammography	5.7	9.5	12.7
Other diagnostic	4.6	1.7	1.2
Visits			
Office	3.2	3.8	1.4
Hospital	2.3	0.4	1.8
Nursing/rest home	6.8	6.0	5.1
Emergency room	-2.9	1.7	-5.9

^aData are for a 5 percent sample of beneficiaries for the first six months of the two years. Payment changes and areas were calculated separately for each type of service.

Source. Commission analysis of 1991 and 1992 National Claims History data.

THE COMMISSION'S PLANS FOR FURTHER WORK ON ACCESS TO CARE

The available data from 1992, both from surveys and from claims, suggest no significant loss of access during the initial implementation of the fee schedule. Much work remains to be done, however, to ensure that access remains good under physician payment reform. The Commission's 1993 report on access will expand on this analysis in a number of ways.

First, a more detailed analysis of claims data is necessary. This analysis presented here using early 1992 data could only assess the impact on large areas of the country. This may mask

significant but geographically localized problems in access. In addition, an analysis based on the demographic characteristics of the beneficiary population is needed to determine whether those populations whose access to care was already inadequate have lost ground during the implementation of the fee schedule. Finally, a more detailed analysis of individual services and patterns of service is warranted. For example, it would be useful to know whether increased fees for office visits have encouraged greater use of preventive services and have discouraged the use of emergency rooms as a source of primary care services.

In addition to analysis of claims data, the Commission plans to analyze the CBS in greater depth. First, additional access indicators, such as waiting times, will be analyzed. Second, the CBS will be used to examine differences in utilization across different groups of beneficiaries by controlling for determinants of health care use.

The Commission noted that there were significant variations in utilization by different Medicare groups in its earlier claims analysis (PPRC 1992b). That analysis, however, was limited because claims data do not provide information about beneficiaries' characteristics such as health status, insurance coverage, and education. That limitation can be reduced by analyzing utilization of services by CBS respondents, controlling for health status, insurance coverage, and disabilities.

For the future, the Commission will continue working to develop better indicators of process and outcomes of care. This work includes the identification of broad classes of truly necessary services, such as the analysis of postdischarge follow-up care presented in the Commission's 1992 report on access. In addition, the Commission intends to develop health status and chronic disease indicators based on diagnosis and procedure information on Medicare claims. These indicators of health status will be useful when attempting to assess variations in service use across vulnerable populations.

BALANCE BILLING AND ENFORCEMENT OF THE LIMITING CHARGE PROVISIONS

One of the major changes included in Medicare physician payment reform was a significant limitation on billing in excess of the Medicare allowed charge. Beginning in 1991, Medicare began to phase out the complex system of Maximum Allowable Actual Charges (MAACs), moving toward charge limits that are a fixed percentage above the Medicare Fee Schedule. These changes were intended both to reduce Medicare beneficiaries' out-of-pocket costs and to simplify understanding and enforcement of the charge limits.

Early 1992 claims and survey data show that Medicare beneficiaries' balance billing liabilities fell significantly between 1991 and 1992. Both assignment (acceptance of the

Medicare allowed charge as payment in full) and participation (acceptance of assignment on all claims) increased during the early implementation of the fee schedule.

In addition, Medicare has for the first time implemented a uniform system to monitor compliance with balance billing limits. At present, this system is being used to screen each claim and to inform physicians and beneficiaries when overcharges have occurred. In the future, this system will aid in identifying and possibly sanctioning physicians who willfully and repeatedly violate the balance billing limits.

Balance Billing and Participation

Based on the first six months' data from 1992, the implementation of the fee schedule was accompanied by increased participation and assignment and reduced balance billing. Early claims data show a 34 percent reduction in the total amount of balance billing.²⁰ Of total Medicare payments for physicians' services, 76 percent were paid to participating physicians, and 87 percent were paid on assignment. These figures all continue recent trends toward greater participation rates and reduced balance billing.

Results from the Commission's survey of physicians substantiates the patterns of participation and assignment shown in the claims data. Three-quarters of the respondents were participating physicians. Surgeons had the highest participation rate (82 percent) and primary care physicians the lowest (66 percent). Nonparticipating primary care physicians also accepted assignment on significantly fewer claims than did other nonparticipating physicians. More physicians appear to be accepting assignment than before: 40 percent of those who accepted assignment in 1992 did not recall taking claims on assignment in 1991. Fourteen percent of physicians did not accept assignment on any claims.

Enforcement of Limiting Charge Provisions

Beginning with OBRA86, Medicare set limits on what physicians could charge in excess of the amount Medicare allowed for payment. These limits, known as Maximum Allowable Actual Charges, limited the actual charges on unassigned claims; that is, claims where the physician does not accept the Medicare allowed amount as payment in full.

The MAACs proved complex and difficult to enforce. The limits were based on each physician's historical charges for each procedure, so that the MAAC varied from physician to physician and from service to service for a given physician. Both physicians

²⁰ This amount reflects the difference in the submitted charge and allowed charge on unassigned claims. It is unknown how much of this amount the physician collects.

and beneficiaries were often unaware of what the MAAC might have been for an individual bill. In theory, physicians were subject to significant sanctions for willful and repeated violation of the MAAC limits. In practice, few if any physicians were ever sanctioned.

OBRA89 greatly simplified Medicare's limiting charge. In broad outline, the actual charge on an unassigned claim was limited to 125 percent of the recognized payment amount in 1991, falling to 15 percent by 1993. Details of the transition are a bit more complex, including a one-time limit of 140 percent for primary care services in 1991, and retention of the MAACs through 1992.²¹ By 1993 the limiting charge for any unassigned claim was a fixed percentage above the fee schedule amount.²²

The Commission's 1992 annual report noted significant lapses in enforcement of the OBRA89 limiting charge provisions (PPRC 1992a). Within the Department of Health and Human Services, it was unclear whether the Office of the Inspector General was responsible for enforcement, or whether HCFA and its carriers had that responsibility. The law is clear that physicians are subject to penalty for willful violation of the charge limits. There was no language, however, explicitly stating the beneficiaries are not liable for those excess charges, nor was there express authority for HCFA or the carriers to seek refunds from physicians on beneficiaries' behalf.

In its 1992 annual report, the Commission made a number of significant recommendations aimed at remedying this situation (PPRC 1992a). First, the Commission suggested that the Medicare statute be amended to clarify that Medicare beneficiaries are not liable for charges in excess of the limiting charge and are due refunds for any excess charges. Second, the Commission lauded HCFA's plan to put the limiting charge on the Explanation of Medicare Benefits (EOMB) form in 1993, and suggested that it go further to publicize the charge limits to both beneficiaries and physicians. Third, the Commission suggested that the carriers screen all unassigned claims, and that physicians be notified of all potential violations. Finally, the Commission suggested that the authority for enforcement of the limiting charge regulations be clearly delegated by the Secretary to the appropriate agency. Most of these recommendations were adopted in legislation (H.R. 11) that was passed by the Congress last year but vetoed by the President.

HCFA made great strides in this area in 1992 and 1993. Starting in August 1992, HCFA began implementing a new system of claim-level monitoring of the charge limits. Under

²¹ For 1991 and 1992, if a physician's MAAC would have been lower than the limits discussed here, the physician's charge was in theory limited to the MAAC. MAACs were fully phased out in 1993.

²² The 1993 limit of 15 percent results in a limiting charge of 9.25 percent above the fee schedule because nonparticipating physicians are paid 95 percent of the fee schedule amount. (Fifteen percent of 95 percent is 9.25 percent.)

the new system, the carriers note any unassigned bills where the billed charge exceeds the charge limit. On a biweekly basis, letters are sent to physicians who have exceeded these limits, noting the individual bills and items for which the limiting charge was exceeded. Currently, the letters to physicians are informative and not punitive, suggesting that they refund any overcharges to the beneficiary. A companion message is also generated on the EOMB form sent to beneficiaries. On that form, one line now gives the limiting charge for the service and notes that the actual charge should not have exceeded the limiting charge.

Currently, this process is merely informative, notifying both beneficiaries and physicians of potential overcharges. The system will, however, make it far easier for HCFA to enforce the charge limits through sanctions should that prove necessary. HCFA is maintaining a database of charge limit violations, and plans a retrospective review of these data to identify physicians who repeatedly violate the charge limits. Physicians with numerous violations may be asked to provide documentation such as canceled checks to prove that excess charges have been refunded to beneficiaries. Sanctions may be imposed at some later date, including up to \$2,000 plus twice the overcharge for each violation of the charge limit and the possibility of up to a five-year expulsion from the Medicare program.

HCFA's new administrative procedures incorporate many of the Commission's recommendations. These include screening of all unassigned claims, notification of physicians and beneficiaries when overcharges occur, and clear delegation of responsibility for enforcement of the charge limits to Medicare carriers. These aspects of the limiting charge provisions require no further legislative action.

Legislative action is still required in some areas, however. The Commission reiterates its recommendation regarding beneficiary liability and refunds: the Medicare statute should be amended to state explicitly that beneficiaries are not liable for amounts beyond the limiting charge and that physicians must refund overcharges to beneficiaries. HCFA currently encourages physicians to make refunds as it notifies physicians that overcharges have occurred. HCFA may further encourage refunds as part of its planned sanctions process, allowing physicians who repeatedly violate the limits to escape sanction upon verification that refunds were made. Without further clarification of the statute, however, there may be little that HCFA can do beyond this to ensure that beneficiaries do not pay amounts in excess of the limiting charge.

Information on the extent of overcharges lends some urgency to this issue. Data from the period August through December 1992 suggest that a significant number of charge violations may have occurred. Between August and October, 12 carriers screened individual claims, while after October all carriers did this screening. During this time period, the carriers found potential excess charges amounting to roughly \$45 million. The typical bill identified by these screens had a charge that exceeded the allowed amount by 55 percent. Between August

and December of 1992, HCFA issued roughly 180,000 letters notifying physicians of violations of charge limits.²³

The Commission lauds HCFA's development of payment screens, EOMB notices, and notices to physicians regarding potential violations of the charge limits. The sheer quantity of possible charge limit violations, however, suggests that this remains a significant problem. The Commission encourages HCFA to continue to pursue this issue vigorously, and recommends that the statute be amended so that beneficiaries may enjoy the financial protections to which they are entitled.

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²³ HCFA staff providing this information note that not all such claims are necessarily violations of the charge limits. A violation is inferred whenever the physician's charge on an unassigned claim exceeds the limiting charge. Claims data do not capture the actual payment made by the beneficiary, however. Some bills identified as overcharges may reflect physicians who do not accept assignment but who also do not expect to collect the full balance bill from the beneficiary. Audits or inquiries with beneficiaries would be necessary to verify that each such bill actually reflected payments in excess of the limiting charge.

PHYSICIANS AND THE MEDICARE FEE SCHEDULE

Implementation of the Medicare Fee Schedule for physician payment began January 1, 1992. This resource-based fee schedule was designed to remove many of the inequities of the previous payment system, shifting payment away from tests and procedures and toward evaluation and management (EM) services. To introduce this national fee schedule, however, numerous other aspects of Medicare payment were also revised. These included new definitions for global surgical packages, new codes and documentation requirements for EM services, and lowered limits on balance billing.

This chapter examines the initial impacts of the payment reform on physicians and physicians' responses to the new payment system. Long-term effects of payment reform are not yet apparent. Yet this early look may be informative, because the largest component of the changes planned during the five-year transition to the fee schedule occurred in 1992. Analysis of the early effects of the fee schedule and responses to them can help guide the evolution of payment reform.

Results from a survey of physicians conducted by the Commission show both poor understanding about Medicare's new payment system and considerable discontent with it. When asked to list the most important problems associated with the Medicare Fee Schedule, low fee levels were physicians' dominant concern. Analysis of claims for 1991 and 1992 support this view, suggesting that the Health Care Financing Administration (HCFA) may have set the overall level of payments somewhat too low.

The chapter begins with a brief description of the sources of information and methods used in the analysis. Next, it reports the results from a survey of physicians conducted by the Commission from July to September 1992. This survey asked physicians about their understanding of the new payment policies. It also explored physicians' most significant problems with the Medicare Fee Schedule specifically and, more generally, with the Medicare program and other payers.

The chapter then examines the financial impact of the Medicare Fee Schedule in two ways. First, it describes the assumptions HCFA made in determining the conversion factor, which translates the relative values in the fee schedule into payment amounts. The chapter examines both assumptions about how physicians might respond to changes in payments and the baseline assumptions used to estimate the Medicare program's total outlays for physicians' services, excluding the effects of changes in physicians' practices. Second, the chapter examines the redistribution of payments by specialty. Because payments depend on both payment rates and the quantity of services billed to Medicare, this section examines these factors separately.

PHYSICIANS' UNDERSTANDING AND PERCEPTION OF PAYMENT REFORM

A survey provides a unique opportunity to monitor physicians' understanding and perceptions of the Medicare program. The Commission engaged Louis Harris and Associates, Inc., to conduct a national telephone survey of 1,000 physicians six months after they had begun using the Medicare Fee Schedule (Louis Harris and Associates, Inc. 1993).¹ The results provide a snapshot of physicians' experience with the fee schedule and the problems they have encountered. This supplemented the input the Commission regularly receives from professional organizations.

To preserve the objectivity of the responses, the sponsor and purposes of the survey were not identified to participants; the survey did not focus exclusively on Medicare until the latter part of the interview. Among the topics covered were physicians' understanding of the Medicare Fee Schedule and payment policies, changes in physicians' practices, and problems with the Medicare Fee Schedule in general and EM services in particular. The survey also asked about physicians' experiences with other payers thus allowing their difficulties with the Medicare program to be seen in the context of all payers.

After more than six months' experience with the Medicare Fee Schedule, the Commission's survey revealed a pressing need for physicians to learn more about the payment system. Many physicians reported they did not understand major aspects of the payment reform, such as the newly revised visit codes, limits on balance billing, and Medicare's global surgical service policies.² This widespread lack of understanding of the fee schedule threatens the equity and accuracy of payments, detracting from the system's credibility in general.

Physicians' complaints about Medicare centered on low payment levels, imprecise coding of services, and administrative and paperwork hassles. Although these problems arose with private payers, they appeared much more serious for Medicare, particularly regarding the level of payments. On average, physicians rated the Medicare program only slightly better than Medicaid in these areas.

Physicians' Understanding of Payment Reform

The Medicare Fee Schedule was introduced in conjunction with a number of important changes in the payment system. Coding for EM services was completely revised, and carriers

¹ The Commission's analysis of the Harris survey uses different definitions of urban/rural and type of specialty than are presented in the Harris report. Pediatricians, pediatric subspecialties, and physicians in training were excluded. Radiologists, anesthesiologists, and pathologists were excluded because they do not provide substantial amounts of evaluation and management services, and nephrologists were excluded to avoid confusion with the different payment method used by Medicare for dialysis patients. The Harris report can be obtained from the Commission.

² Physicians' understanding of Volume Performance Standards is discussed in Chapter 12.

were instructed to interpret the codes more uniformly than they had in the past. Other significant changes included tightening of balance billing limits, standardizing global surgical service packages, and revising policies regarding reduced payment for certain office-based procedures performed in a hospital outpatient department.

The most significant administrative change that accompanied the introduction of the fee schedule was the complete revision of coding for EM services. (These services account for more than a third of Medicare's outlays for physicians' services.) The new EM codes were specifically developed to be more accurate and easier to use, making coding more uniform. If physicians do not adequately understand the new codes or if they use different codes for the same service, inequities in payment can result.

This revision was necessary because interpretation of the old EM codes depended heavily on carrier practices. When carriers adopted Common Procedural Terminology (CPT) codes as a national standard, their implementation of visit and consultation codes was not uniform. For example, some carriers set a second-level visit (limited) as the standard for a routine visit, while others used a third-level visit (intermediate). This system worked reasonably well since each carrier's payment levels matched the interpretation of the codes used within the carrier's area. A national fee schedule, however, demanded a uniform interpretation of codes in all carrier areas; hence, the revision of CPT coding to allow a nationally uniform interpretation of the content of a particular EM code.

When questioned about their experiences with the new EM codes, 67 percent of physicians thought they adequately understood how to use the new billing codes for visits and consultations. The new codes very accurately described services for 11 percent of physicians, while 54 percent thought they were somewhat accurate. Perhaps most telling, those who adequately understood the codes were more likely to think that the codes accurately described their services.

Although 33 percent of physicians do not believe they adequately understand the new EM codes, the uniformity of EM coding improved in 1992 (Table 6-1). While some physicians may still have difficulties interpreting individual codes, substantial gains may have occurred from carriers adopting consistent policies. To measure the uniformity of coding across carriers, the proportion of visits coded at each level was calculated for each class of office and hospital visit as a national average, and separately for each carrier. The dispersion of the carriers around the national average was measured by taking the standard deviation of the

Table 6-1. Uniformity of visit coding across carriers, 1991-1992

1991 visit category	Standard deviation across carriers in 1991 ^a	1992 visit category	Standard deviation across carriers in 1992 ^a
New patient office visit			
Brief (90000)	.03	Level 1 (99201)	.03
Limited (90010)	.08	Level 2 (99202)	.05
Intermediate (90015)	.05	Level 3 (99203)	.03
Extended (90017)	.04	Level 4 (99204)	.04
Comprehensive (90020)	.11	Level 5 (99205)	.04
Established patient office visit			
Minimal (90030)	.01	Level 1 (99211)	.02
Brief (90040)	.05	Level 2 (99212)	.07
Limited (90050)	.13	Level 3 (99213)	.05
Intermediate (90060)	.10		
Extended (90070)	.05	Level 4 (99214)	.06
Comprehensive (90080)	.01	Level 5 (99215)	.01
Initial hospital care			
Brief (90200)	.05	Level 1 (99221)	.03
Intermediate (90215)	.10	Level 2 (99222)	.05
Comprehensive (90220)	.13	Level 3 (99223)	.07
Subsequent hospital care			
Brief (90240)	.09	Level 1 (99231)	.08
Limited (90250)	.15		
Intermediate (90260)	.14	Level 2 (99232)	.05
Extended (90270)	.05		
Comprehensive (90280)	.03	Level 3 (99233)	.04

^aFor each visit code the standard deviation measures the dispersion across carriers in the proportion of visits in the category coded at that level. Each observation was weighted by the number of visits for the carrier.

Source. Commission analysis of 1991 and 1992 NCH files, 1 percent sample of beneficiaries.

proportions for each level of visit. For most classes of visits, these standard deviations decreased between 1991 and 1992, showing that coding variation was reduced.³

A second major administrative change was the standardization of the package of services included in the payment for an individual CPT code. For example, major surgical procedures

³ Since variation in coding may reflect differences in case mix across carriers, the Commission replicated part of an Office of the Inspector General (OIG) study of uniformity of coding across carriers. In that study, the OIG compared two rural carriers (Wyoming and Montana) and two urban carriers (both New York) (OIG 1989). The carriers process claims for similar beneficiaries, so differences within each pair could reasonably be attributed to differences in coding practices. Replicating this comparison for 1991 and 1992, office visits for established patients showed considerable improvement in uniformity of coding. Subsequent hospital visits, while showing some improvements, do not demonstrate the same degree of uniformity as office visits.

include some follow-up care under the global surgical fee, while some procedures include ancillary services such as bandages and dressings as part of the procedure. Before the new payment system, each carrier adopted its own definition of which services were included in the payment for an individual CPT code. Much like the former EM codes, such a system could work only if payment levels reflected the differences in the bundle of services included in the package. Under a national fee schedule, a uniform policy was warranted.

For surgical global services, 63 percent of surgeons claimed an adequate understanding of which services are included in the global surgical package. Fifty-five percent of surgeons and proceduralists thought they adequately understood the policy specifying which services other than the procedure itself are included under the CPT code for an individual procedure.⁴

Medicare also introduced a payment differential for procedures performed in hospital outpatient departments that are also commonly performed in physicians' offices. When the service is performed in a hospital outpatient department, the practice cost component of the physician's payment is reduced by half. In this case, 58 percent of surgeons and proceduralists thought they understood this policy.

Finally, Medicare continued to lower the limits on balance billing, restricting this to 20 percent of the allowed charge in 1992. Only 48 percent of the physicians who bill patients above the fee schedule amount thought they adequately understood the balance billing limits.⁵

Physicians' Problems with the Medicare Fee Schedule

In the Commission's survey, physicians were asked to identify the two most important problems with the Medicare Fee Schedule. Analysis of the responses shows that low payment levels, inadequate or ambiguous coding of services, and paperwork and other administrative burdens top the list of physicians' complaints about the new system (Table 6-2).

Low payment levels dominated complaints about the Medicare Fee Schedule. Payment levels were included in the three most frequent responses: low payments for most services or low conversion factor, inadequate reimbursement for practice expense, and low payments for selected services.

Low payment levels not only were physicians' key concern with the Medicare Fee Schedule, but were considered a serious problem with Medicare as a whole. Low payment levels were considered a very serious problem for more physicians than were balance billing limits,

⁴ Proceduralists are not surgeons, but are defined on the basis of their relative billings from procedures. They include cardiologists, gastroenterologists, and radiation oncologists.

⁵ A discussion of physicians' billing in excess of the limiting charge is given in Chapter 5.

timeliness of payments, carrier utilization review, relations with carriers, and peer review organization (PRO) quality of care review.

Table 6-2. Physicians' most important problems with the Medicare Fee Schedule

Type of problem	Percent of physicians ^a
<i>Problems with Medicare Fee Schedule^b</i>	
Fee levels	
Low fees for most services/low conversion factor	37
Inadequate reimbursement for practice expenses	22
Low fees for selected services	17
Balance billing limits	4
Inadequate reimbursement for cognitive skills	4
Coding	
Problems with EM codes	14
Problem with billing codes other than EM	5
Other	
Increased paperwork or slow reimbursement	15
System too complex, difficult to understand	6
Global packages for services	4
<i>Problems encountered in using EM codes^c</i>	
No problems	30
Difficulty finding right code	24
Difficulty choosing between two codes	9
Discrepancies between time and content descriptors	11
Complexity of system	29
Required documentation and paperwork	9
Learning or adjusting to new codes	13

^a Physicians could name more than one problem, so these percentages do not sum to 100.

^b Physicians were asked to name the two most important problems with the Medicare Fee Schedule.

^c Physicians were asked to name problems other than fee levels encountered in using the new visit and consultation codes.

Source. Commission analysis of Harris Survey results.

Coding — visit and consultation codes as well as other billing codes — was the next most cited problem with the Medicare Fee Schedule (Table 6-2). When asked what problems they encountered while using the new EM codes, 30 percent of the physicians reported none. For those who had problems, the most common were system complexity and difficulty finding a code that described the service provided.

Finally, the complexity and paperwork burden imposed by the new payment policies concerned 21 percent of physicians (Table 6-2). In identifying problems with the new Medicare Fee Schedule, 15 percent of physicians complained about increased paperwork and bureaucracy or slow reimbursement.

Physicians' Views of Medicare in Context with Other Payers

A particular strength of the Commission's survey of physicians is that Medicare was analyzed in the context of other payers. Only at the end of the survey did the questions focus exclusively on the Medicare program. This allows identifying some problems that are common to all payers, and comparing Medicare with other insurance programs.

At the beginning of the interview, the physicians were asked to rate the seriousness of seven problems for their practice as a whole. The primary problems were paperwork and administrative hassle in billing, which were considered very serious for two-thirds of the respondents. The high cost of practice and low payment levels were considered very serious problems for slightly less than half the physicians. Malpractice issues and insurance followed, being very serious for one-third of physicians. One-fourth or fewer of the physicians rated external review and limits on clinical decisions, too much work or long hours, and uninsured patients as a very serious problem.

How physicians rated these problems differed somewhat, depending on the specialty. Primary care physicians were most likely to rate too much work or long hours as a very serious problem. But they were less likely to cite low payment levels as a very serious problem. On the other hand, low payment levels were considered a very serious problem by physicians who spent greater proportion of their time with Medicare patients. Primary care and other nonprocedural physicians were more likely to consider paperwork and administrative hassles in billing as very serious. Finally, surgeons voiced more concern than nonsurgeons over malpractice issues.

The physicians were then asked to compare different payers — private fee-for-service, Medicare, Medicaid, and health maintenance organizations (HMOs) — on three of these general problems. The results showed Medicare and Medicaid to be similarly regarded by the physicians, with private fee-for-service insurers causing the fewest serious problems (Table 6-3). Physicians were more likely to consider paperwork and administrative hassles a very serious problem for Medicare and for Medicaid than for HMOs or private fee-for-service insurers. Payment levels for Medicare and Medicaid were also considered a very serious problem by a majority of physicians. External review and limitations on clinical decisions were less problematic for private fee-for-service insurers than for the other payers.

Paperwork and administrative hassles were the most important problems for physicians when thinking about their practice in general, but these were cited much less often when physicians were thinking about specific payers. This suggests that the problems of administrative hassles and paperwork are due in part to the multiplicity of payers rather than to difficulties with any one particular payer. By contrast, physicians were less likely to cite payment levels as an

important problem when thinking about their practice in general, but identified low payment levels as problems with Medicare and Medicaid. The questions focusing on complaints about the Medicare program clearly identified payment levels as physicians' overwhelming concern about Medicare.

Table 6-3. Percentage of physicians with very serious problems with insurance plans, by type of plan^a

Type of problem	For practice in general	Type of insurance plan			
		Medicare	Medicaid	HMOs	Private fee-for-service
External review and limitations	26	28	25	32	14
Paperwork and administrative hassles	69	48	43	31	21
Reimbursement levels	41	58	60	28	10

^aThe analysis was restricted to physicians at least 10 percent of whose patients were in a given insurance plan.

Source. Commission analysis of Harris Survey results.

FINANCIAL IMPACT OF THE MEDICARE FEE SCHEDULE

The Medicare Fee Schedule was intended to be implemented in a budget-neutral fashion: total outlays under the new system were to match the outlays that would have occurred under the previous payment methodology. Within this framework of overall budget neutrality, payments were to be redistributed, with reductions in the level of payments for tests and procedures being offset by payment level increases for evaluation and management services, and with payments generally increasing in rural areas of the country.

The overall payment level under the Medicare Fee Schedule is established through the conversion factor. In effect, the conversion factor translates the relative value units for individual procedures into actual dollar payments. Increases or decreases in the overall level of payments are accomplished by adjusting the level of the conversion factor.

In moving from the former payment system to the fee schedule, HCFA was required to set the initial conversion factor in a budget-neutral manner. This does not mean that 1992 payments were expected to equal those made in 1991. Rather, budget neutrality requires that total 1992 payments under the fee schedule should match the total 1992 payments that would have occurred in the absence of any policy changes. Inaccuracies in setting the conversion factor could result in either underpayment to physicians or in excess outlays by the Medicare program.

Calculation of this budget-neutral conversion factor was no easy task. In addition to the simple comparison of historical payment rates with the new Medicare Fee Schedule, the calculation required HCFA to make a number of important assumptions regarding coding, data accuracy, and physicians' reactions to the new payment levels.

This section begins by describing the methodologies used to analyze the impact of the Medicare Fee Schedule. It then discusses the assumptions HCFA made to calculate the conversion factor. First, it considers the baseline assumptions, i.e., those assumptions that do not depend on physicians' responses to changes in payment rates. These include assumptions about physicians' coding of EM services, the proportion of bills that would be submitted for less than the fee schedule amount, and the degree to which projections from HCFA's 1989 database matched actual fees and service use in 1991. Second, the section explores HCFA's assumptions that fully half of any reductions in payment levels would be offset by increases in the quantity of services billed to Medicare, while increases in payment would not lead to any offset. Finally, the section presents the differential impact of the Medicare Fee Schedule across specialties.

Methods and Limitations

Analyses of the impact of the Medicare Fee Schedule use 1991 and 1992 claims from a 5 percent sample of beneficiaries extracted from Medicare's National Claims History (NCH) files. Half-year files were constructed using claims incurred during the first half of 1991 and 1992 and paid through November of each year. These half-year files were used because complete 1992 data were not yet available. Because some claims take a long time to process, these files do not capture all services incurred during these time periods. Analysis of the pattern of claims processing times indicates that the files are complete to nearly the same degree, however, and so should be roughly comparable.⁶

As was done in the Commission's previous analyses of changes in payments and quantity of services, the year-to-year change in prices and quantity of services was calculated for each specialty within each carrier area.⁷ The quantity index captures both changes in the total number of services and the mix of services. The index is constructed by weighting counts of services in proportion to the payment rate for the service. For example, a \$1,000 cataract surgery would be weighted the same as 10 \$100 consultations.

Analysis of changes in EM services between 1991 and 1992 is particularly difficult. Adoption of the new EM codes led to a complete revision of coding of visits and

⁶ Total percentage changes may vary by a percent across analyses due to rounding, alternate uses of 1 percent and 5 percent samples, and exclusion of problematic specialties or records from some analyses.

⁷ HCFA introduced several new physician specialty codes beginning in the fall of 1991. These new codes were translated back to the older set of codes to keep the files compatible.

consultations, both within a class of visits and across classes of visits. Some classes, such as subsequent hospital visits, saw a reduction in the number of levels for describing a visit, while the class of subsequent critical care visits was eliminated entirely. Initial consultations are now split into two classes based on the site of service.

To translate the old EM codes into the new ones, HCFA developed a visit crosswalk that maps new EM codes to the old codes. This crosswalk was then used to project how physicians would use the new EM codes and how much Medicare would pay for them. Inaccuracies in that crosswalk would have resulted in across-the-board inaccuracies in the measured changes in prices and quantity for visits.

To assess the accuracy of this crosswalk, comparisons were made between the crosswalk's projection for visits billed in 1991 and the new EM codes billed in 1992. Assuming that physicians coded as expected, the projection based on visits billed in 1991 should match the pattern of billing in 1992. The total number of EM services was held constant to 1991 levels so that comparisons would measure only shifts in the mix of visits and would exclude the effects of changes in the total number of EM services billed. To measure these shifts of coding in dollars (sometimes referred to as the coding intensity), each visit level was weighted by its 1992 national average payment, and then summed to obtain the total dollars for each class of visit.

Although there was only a 0.6 percent decrease in coding intensity between HCFA's crosswalk projection and 1992 actual billing for EM services overall, there were large percentage changes for individual classes of visits. First, some of these changes result from physicians coding different classes of visits from 1991 to 1992. For example, the 15.6 percent decrease in critical care is probably related to the 7.9 percent increase in subsequent hospital visits (Table 6-4).⁸ Second, the crosswalk had limited success predicting changes in coding intensity when physicians coded within the same class. For example, coding intensity for new patient office visits fell by 5.6 percent, because physicians coded lower levels of service within the same class in 1992 than the crosswalk predicted (Table 6-4).

Another potential problem for comparisons between 1991 and 1992 is that the use of visit codes became more standardized across carriers in 1992. This standardization might lead to a spurious price-quantity relationship if areas using mostly low-level visit codes had a more generous payment for those codes while areas using mostly high-level codes had lower payments. In an area using low-level codes, a move to uniform coding and payments would be seen as a reduction in payment accompanied by use of higher-level of codes. Such a shift to higher-level codes would be interpreted as an increase in the number and intensity of visits.

⁸ The class of subsequent critical care visits was eliminated for 1992, and the crosswalk does not show how these visits would be coded.

Table 6-4. Change in coding intensity, by class of visit, 1991-1992

Class of EM visit	Percent change in coding intensity ^a	Percentage of 1992 allowed charges
Office, new patient	-5.6	5.1
Office, established patient	1.2	38.3
Hospital, initial	0.0	6.3
Hospital, subsequent	7.9	25.1
Consultation, outpatient	-0.7	4.8
Consultation, inpatient, initial	-4.8	7.3
Consultation, inpatient, follow-up	-6.4	1.6
Consultation, confirmatory	1.2	0.2
Emergency department	-9.6	4.9
Critical care	-15.6	1.8
Nursing facility, comprehensive assessment	-1.5	0.6
Nursing facility, subsequent	-10.7	3.2
Rest home, new patient	6.1	0.0
Rest home, established patient	-13.8	0.3
Home, new patient	-11.1	0.1
Home, established patient	-8.2	0.4
All visits	-0.6	100.0

^a1991 visit codes were recoded to the new EM codes using the HCFA crosswalk. The number of visits for both years was held to the 1991 total for each visit class, and the distribution of visits across levels was weighted by the 1992 national average payment.

Source. Commission analysis of 1991 and 1992 NCH files, 1 percent sample of beneficiaries.

In addition, the move to a uniform surgical global service definition adds considerable uncertainty to the analysis of visits by surgeons. For surgeons, the number of billed visits will change even though actual service delivery will be unaffected. This may be important because these changes will occur on a carrier-wide basis, adding potentially confounding errors to the analysis of surgeons' quantity of services.

The Budget-Neutral Conversion Factor: Baseline Assumptions

HCFA used a two-step process to determine the conversion factor initially. First, the agency established the 1991 baseline estimating the level of fees in 1991 and accounting for changes in coding and payment practices. Second, HCFA made a baseline adjustment, reducing fees under the assumption that physicians would respond to this by increasing the number and intensity of services billed.

Calculation of both the baseline and the baseline adjustment required HCFA to make a number of significant assumptions. This section examines the major assumptions it used to

establish the baseline. The question of the baseline adjustment (or volume offset) is examined in the following section.

The level of Medicare payments was expected to decline by roughly 1 percent between 1991 and 1992. This reduction is a combination of a 3 percent reduction in the conversion factor to adjust for expected increases in the quantity of services, coupled with a 1.9 percent fee update from 1991 to 1992.

When comparing claims from the first half of 1991 and 1992, the level of payments appears to have fallen about 3 percent, or 2 percentage points more than expected.⁹ Thus, as far as the early data show, physicians experienced a somewhat larger reduction in payment rates than expected during the first year of the transition to the fee schedule.

One significant assumption HCFA made to estimate total outlays was to predict how physicians would use the new EM codes. As discussed earlier, the agency developed a visit crosswalk to project physician use of new EM codes based on how they formerly had coded for these services. Because EM services account for more than a third of Medicare's outlays for physicians' services, any inaccuracy in the crosswalk could have resulted in significant deviations from budget neutrality.

As noted in the methods section above, HCFA's crosswalk from the old to the new EM codes did not accurately predict actual 1992 billing for individual categories of visit services. In the aggregate, however, HCFA's crosswalk forecasted expenditures for EM services with a reasonable degree of accuracy (Table 6-4). There was only a 0.6 percent decrease between the coding projected in aggregate by HCFA's crosswalk and actual 1992 coding. Therefore this assumption does not explain much of the larger-than-expected reduction in payment.¹⁰

The Commission could only indirectly assess another assumption that affected the conversion factor: the proportion of bills paid at the billed charge. Physicians submitting bills below the fee schedule amounts are paid their billed charge. The lower payment for these bills allows a higher payment for all other bills without violating the conditions of budget neutrality. HCFA set the 1992 conversion factor under the assumption that physicians would begin raising charges so that 90 percent of the gap between the billed charge and the fee schedule amount would have been closed by 1996.

An accurate analysis of this assumption would require identifying both the number of bills paid at the billed charge and the dollar amounts that would have been paid had the physicians

⁹ This estimate of 2 percentage points may be conservative because it does not capture several factors that would have raised the measure of price increases, such as expanding the surgical global service packages and bundling EKG interpretation into visits.

¹⁰ Because EM services account for roughly a third of payments, this 0.6 percent overestimate of visit coding would translate to a 0.2 percent underestimate of the budget-neutral conversion factor.

billed at the prevailing or customary charge (1991) or the fee schedule (1992). Analysis of claims data shows only a modest decline in the number of bills paid at the billed charge, from 9 percent of all bills in 1991 to 8 percent in 1992. This suggests that there was more billing below the fee schedule than was anticipated in HCFA's calculations. It is difficult, however, to quantify the total dollar amounts involved because the individual claims do not record the payment level that would have applied if the submitted charge had exceeded the prevailing, the customary, or the fee schedule amount.

Another potential source of error in determining the baseline may have been the database used in the calculations. HCFA began with 1989 data, then aged both the payment levels and the quantity of service to approximate 1991 data.¹¹ Given the difficulties in projecting changes both in payments and particularly in the quantity of services, it is plausible that the aged 1989 data differs from the actual 1991 claims.¹²

For several reasons, the finding of a lower-than-expected payment level should be interpreted cautiously. First, the Commission's analysis is based solely on a 5 percent sample of claims and thus may be subject to random errors due to sampling. Additionally, there may be as yet unnoticed changes in carriers' data reporting practices that may have influenced the measure of the change in payments. Finally, analysis was unable to trace the low payment level back to any specific assumption made by HCFA in establishing the level of payments.

The Budget-Neutral Conversion Factor: Offset Assumption

The question of the relationship between changes in payments and quantity of services was first raised in HCFA's proposed rule for the Medicare Fee Schedule (HCFA 1991a). In determining the conversion factor, HCFA assumed that physicians would offset half of any reductions in payment through increased quantity of services, but that increases in payment would not be similarly offset by reductions in the quantity of services. To maintain budget neutrality under these assumptions, HCFA reduced fees an average of 3 percent in 1992, increasing to an average cut of 6.5 percent in 1996 (HCFA 1991a).¹³ This fee reduction was called the baseline adjustment.

¹¹ In the final rule, HCFA noted that aging of procedure volumes from 1989 to 1991 resulted in an overall increase of 1 percent in the conversion factor relative to the use of 1989 volumes (HCFA 1991b).

¹² The Commission's simulations of 1992 payment rates provide some indirect evidence of this. The simulations show roughly the same 2 percentage point excess fee reduction as is shown by a comparison of 1991 and actual 1992 data. This would seem to rule out unexpected changes in 1992 billing practices as the principal source of the discrepancy because the simulations are not based on actual 1992 data. Because only HCFA has the exact database used to calibrate the initial conversion factor, the Commission has asked for the agency's assistance in assessing whether or not inaccuracies in the aging of the data may have contributed to error in the initial conversion factor.

¹³ Many parties disagreed with HCFA's offset assumption. The Commission recommended an average 1 percent fee cut as more appropriate, while the American Medical Association and the various medical societies were unanimous in their opposition to any offset (PPRC 1991).

HCFA's assumption of a 50 percent offset for reductions in payment was based primarily on longstanding actuarial practice within Medicare. In assessing historical experience, HCFA's actuaries concluded that fee cuts typically generated only half of projected savings. On the basis of this observation, the actuaries incorporated a 50 percent rule-of-thumb in their budget and outlay projections.

If this rule had been applied symmetrically to both fee cuts and fee increases, there would have been no baseline adjustment. Overall budget neutrality implies that fee cuts and increases would have balanced, so that no net increase in the quantity of services would have been predicted. In calculating the initial conversion factor, however, this rule was applied asymmetrically: an offset was assumed for fee cuts, but no offset was assumed for increases. Because of this, a significant increase in the aggregate quantity of services was predicted, necessitating a significant baseline adjustment to maintain budget neutrality.

Before 1992 outlay data were available, there were two good reasons to question HCFA's assumptions regarding the offset. First, the actuaries' observations were typically limited to small, discrete reductions in payment, for example, a fee freeze in place of a 3 percent to 4 percent fee update. There is little historical precedent for the large and widespread payment changes that occurred during the transition to the fee schedule. Second, it is impossible to analyze increases in payment with the Medicare program, because there have been none in recent years.¹⁴ HCFA's assumption of no offset for increases in payment thus was not — and could not be — based on analysis of recent Medicare claims.

Now that 1992 claims are available, data on the actual changes in the quantity of services provided between 1991 and 1992 lend little support to the notion of a large aggregate offset. Because overall growth in the quantity of services fluctuates considerably from year to year, it is difficult to infer much from a single year's increase in the quantity of services. As discussed in Chapter 5, however, this quantity growth was roughly 3 percentage points below the recent trend. This is quite a difference from the 3 percentage point increase implicit in HCFA's baseline adjustment and suggests that the baseline adjustment may have been too large.

The Commission estimated the offset using both recent historical data and early data from 1992. The following section summarizes the Commission's work using historical claims data, while estimates from early 1992 are presented in a subsequent section.

Research on the Overvalued Procedure Fee Reductions. Before examining 1992 data, it is reasonable to ask whether Medicare's experience with overvalued procedure fee reductions provides any evidence of offsets. A summary of the Commission's work in this area provides a background against which to view the estimated offsets from 1992 data.

¹⁴ The only relevant experience seems to be from a revision of the payment localities in Colorado in the late 1970s. There, fee increases seem to have been partially offset by reduced volume of care (Rice 1983; CBO 1989).

Offsets in the 1992 data in many ways continue trends evident from analysis of the overvalued procedures fee reductions.

The Commission's *Annual Report to Congress 1991* presented an empirical analysis of the overvalued procedure reductions in payment in the Omnibus Budget Reconciliation Act of 1987 (OBRA87). This analysis of a handful of specialties suggested that, within a given specialty, growth in the quantity of services was higher in areas where payments were reduced.

During 1992, the Commission expanded this effort, completing three working papers analyzing offsets for three rounds of overvalued procedure fee reductions: OBRA87, OBRA89, and OBRA90. The OBRA87 reductions were the most narrowly targeted, affecting 11 procedure groups consisting primarily of major surgical procedures. The OBRA89 reductions were broader, affecting a larger number of both surgical and nonsurgical procedures. The OBRA90 cuts were the most comprehensive of all, including a second round of cuts for the OBRA89 overvalued procedures, plus a series of across-the-board cuts for broad classes of other services.

These overvalued procedure fee reductions provided an excellent natural experiment for anticipating the response to fee reductions under the Medicare Fee Schedule.¹⁵ First, the fee reductions varied considerably across geographic areas. This provides a good opportunity to compare physicians of the same specialty, some of whom saw fee changes and some of whom did not. Second, the fee reductions for overvalued procedures were similar to those occurring under the fee schedule. In the case of OBRA89 and OBRA90, the cuts were based on an early estimate of payments under the Medicare Fee Schedule; reductions under each law were one-third of the difference between existing payments and payments projected under the fee schedule. This reduction was subject to a maximum reduction of 15 percent per year.

The Commission's analyses of the overvalued procedure fee cuts were quite extensive. First, both market-level data and information on individual physician practices were used. Second, because the scope of the fee reductions broadened over time, the studies also focus on different baskets of services over time. Third, when estimating the offsets, a statistical technique was used to remove specialtywide and areawide differences in growth in the quantity of services. This avoids confounding a higher rate of growth in a particular specialty or in a particular area with the impact of the fee reductions.

All of the Commission's analyses suggest that the quantity of services increased in response to the OBRA overvalued procedure fee cuts (Table 6-5). For all three rounds of overvalued procedure fee cuts, growth in the quantity of services was faster where fees were most sharply reduced.

¹⁵ They of course provide no information about response to fee increases.

Table 6-5. Estimates of offsets for OBRA overvalued procedure fee reductions
Percent

	Surgical	Nonsurgical
OBRA87	-51	n.a.
OBRA89	-33	-62
OBRA90	-17	-60

n.a. Not statistically significant at the 5 percent level.

Source. Commission analysis of Medicare BMAD-I data.

The pattern of the estimated offsets tells a rational story. The magnitude of surgeons' response to fee cuts fell throughout this period. The estimates show that surgeons offset more than half of the OBRA87 reductions, roughly one-third of the OBRA89 reductions, and less than a fifth of the OBRA90 reductions. Nonsurgeons, by contrast, offset roughly 60 percent of both the OBRA89 and OBRA90 reductions.¹⁶

Without a more detailed analysis, it is impossible to know what would explain this differential pattern for surgeons versus nonsurgeons. On the one hand, surgeons may have exhausted their available avenues for increased billings. For example, it may be difficult beyond some point to identify an ever-larger number of patients for whom surgery may be appropriate. On the other hand, payment rates may have fallen low enough so that there was little economic incentive to perform further surgeries on Medicare patients.¹⁷ Nonsurgeons, by contrast, were affected less heavily by the OBRA cuts and may have retained either more flexibility in billing Medicare or greater financial incentives to do so.¹⁸

Averaging across surgeons and others, analysis of the OBRA fee reductions suggested an average offset to procedure fee reductions ranging from 30 percent to 40 percent. Several caveats must be noted, however, before comparing this estimate to the experience under the fee schedule. First, the estimated offsets vary both across specialties and over time. The surgical data clearly show that there is no guarantee that the offset observed in one year will occur in a subsequent year. Second, and perhaps more important, because there were no

¹⁶ For analytical purposes, specialties were grouped as either surgical or nonsurgical using the HCFA definition of surgical specialties.

¹⁷ This raises the question of whether surgeons may have offset the Medicare cuts through changes in service to their non-Medicare patients. The Commission is gathering several sources of private sector data in order to study this issue.

¹⁸ The OBRA87 reductions were almost entirely targeted to major surgical procedures; for nonsurgeons, they affected procedures accounting for less than 4 percent of their billings. The OBRA89 cuts affected procedures accounting for only 11 percent of nonsurgeons' billings.

significant fee increases in this period, there could be no analysis of the impact of fee increases.

Analysis of Experience Under the Medicare Fee Schedule. Most recently, the Commission examined data from the first six months' experience under the Medicare Fee Schedule. Across all procedures, physicians' responses to fee reductions under the Medicare Fee Schedule appear similar to those estimated for the OBRA overvalued procedure fee cuts: about 36 percent of the changes in fees were offset by changes in the quantity of services. In addition, the pattern of the responses continues the trend observed with the OBRA data: nearly all of the response was from nonsurgeons. Finally, the fee increases for visits provided in 1992 were partially offset by slower growth in the quantity of services. Physicians' response to increases in payment for visits, however, was smaller than their response to reductions for procedures.

Regression analysis was used to analyze the effect of fee changes on growth in the quantity of services from 1991 to 1992. Each observation in this analysis consisted of a specialty within a carrier. For example, all cardiologists in Colorado were treated as one observation. Three factors were used simultaneously to predict growth in the quantity of services between 1991 and 1992: the trend in the rate of quantity growth from 1986 through 1990, the growth in the number of beneficiaries between 1991 and 1992, and the changes in fees between 1991 and 1992. The trend rate of growth in the quantity of services for each specialty within each carrier accounts for differences in the growth of services that predated the fee schedule. Growth in the number of beneficiaries in each carrier between 1991 and 1992 accounts for variations in the number of Medicare beneficiaries generating fee-for-service claims in each area.¹⁹ Finally, offsets are captured by the impact of the change in fees on the growth in the quantity of services.²⁰

For all services and specialties, the estimated offset is 36 percent (Table 6-6). This is well within the range of 30 percent to 40 percent estimated by the Commission based on the OBRA overvalued procedure fee cuts. This average offset of 36 percent, however, assumes that all services show an equal reaction to changes in fees. When services were disaggregated, there was a 48 percent offset for procedure fee reductions and an average 18 percent offset for visit fee increases. This offset for visits represents, on average, a reduction

¹⁹ For example, Medicare risk contracting in California grew substantially between 1991 and 1992. HMO growth removes beneficiaries from the fee-for-service population considered in this analysis.

²⁰ A further technical issue is in the treatment of visits. As discussed above in the methods section, the change from carrier-specific to nationally uniform interpretation of the EM codes, could lead to a spurious negative relationship between measured changes in fees and quantity of EM services. That problem is avoided in this analysis by ignoring the crosswalk and working directly from counts of visits. (Results using visit codes projected by the HCFA crosswalk were qualitatively similar to the results shown here but did in fact show a larger apparent volume offset.) The use of visit counts avoids problems with the crosswalk but also ignores any true changes in the mix and intensity of visits. Given that the historical data show only a very small trend toward upcoding of visits, this seems a relatively modest concern (PPRC 1990).

in quantity of services in response to a fee increase. More procedures and fewer visits is the opposite pattern of change than intended. This initial response, however, may be short-term, so it is too early to conclude that these offsets will negate the incentives of the Medicare fee schedule in the long-term.

The analysis also accounts for the possibility of spillovers across categories of service. The only significant spillover was from procedure prices to the quantity of visits. Unlike the other offsets, where fee changes and growth in the quantity of services were inversely related, this spillover shows that each 1 percentage point reduction in procedure prices was associated with a 0.2 percent reduction in the growth of visits.²¹

Table 6-6. Estimates of volume offsets, by type of service, 1991-1992^a
Percent

Type of physician and type of service	Type of service		
	All	Procedures	Visits
All physicians			
All services	-0.36 ^b (5.51)	...	...
Procedures	...	-0.48 ^b (5.13)	0.20 ^b (2.75)
Visits	...	-0.09 (2.08)	-0.18 ^b (3.48)
Surgeons			
All services	-0.19 (1.15)	...	...
Procedures	...	-0.03 (0.18)	-0.22 (1.15)
Visits	...	-0.04 (0.61)	-0.05 (0.49)
Non-surgeons			
All services	-0.51 ^b (7.75)	...	...
Procedures	...	-0.88 ^b (6.10)	0.05 (0.47)
Visits	...	-0.02 (0.27)	-0.22 ^b (3.45)

^aT-statistics are in parenthesis.

^bSignificant at 0.05 level

Source. Commission analysis of 1991 and 1992 NCH files, 5 percent sample of beneficiaries.

No statistically significant offsets were found for surgeons, and virtually all of the offset is due to nonsurgeons (Table 6-6). For nonsurgeons, the offset for all services was 51 percent.

²¹ One possible explanation for this result is that when procedure fees were reduced, physicians performed more procedures, leaving less time to provide visits.

This was a combination of an 88 percent offset for procedures and tests and a 22 percent offset for visits.

It is not precisely correct to compare these procedure and visit estimates of 48 percent and 18 percent directly to HCFA's assumption of a 50 percent offset for fee reductions and no offset for fee increases. First, HCFA's assumption was applied to data on individual practices, while these data are estimated as average offsets based on entire market areas. Second, these data are only for the first six months of the year, and physicians' responses for the entire year might be different. Finally, although the visit categories for and procedure services correspond quite closely to services experiencing fee increases and those experiencing fee decreases, the Commission's estimates allow for spillovers between the categories of service whereas HCFA's assumptions did not do so explicitly.

A better approach is to use the regression results to estimate the net amount of growth in the quantity of services that resulted from offsets, and then compare this figure directly to HCFA's 3 percent baseline adjustment. Substituting zero fee changes into the full regression equations (not shown) predicts how rapidly the quantity of services would have grown if no fees had changed between 1991 and 1992. The difference between actual growth (which includes the impact of the fee changes) and this estimate (which does not include the impact of the fee changes) gives the net impact of the payment changes on growth in the quantity of services. Using the separate regressions on visits and procedures, this calculation yields a figure of 1.7 percent, significantly less than HCFA's 3 percent baseline adjustment.²²

This 1.7 percent figure does not fully address the more hypothetical question of what the correct baseline adjustment should have been. Further calculation is required to address that issue because the baseline adjustment was an iterative process. In broad outline, an original assumption of growth in quantity requires a downward adjustment in fees. This, in turn, spurs a small additional growth in the quantity of services, requiring a somewhat larger reduction in payment. This continues, ad infinitum, until the reduction in payment and the growth in quantity match one another. This process now applies in reverse: if the baseline adjustment had been 1.7 percent rather than 3 percent, payments would have been higher, leading to yet a smaller offset, and so forth. This process converges to a final baseline adjustment of roughly 0.8 percent, at which point the baseline adjustment and the resulting induced growth in quantity just balance.

All of the above analysis is subject to numerous caveats. First, as noted earlier, the revision of the visit coding adds considerable uncertainty. Second, specialty codes were revised in 1992. For this analysis, the new codes were mapped back to the old ones, but there is no way to determine how much the change in coding has affected the results. Third, other changes in

²² In addition, to examine whether this technique was comparable to HCFA's original approach, the regression coefficients were replaced with a 50 percent offset for procedures and no offset for visits. This yielded an overall impact of 3.2 percent, quite close to HCFA's baseline adjustment of 3 percent.

carrier data reporting practices, such as the recording of units of service, may have affected the results. Fourth, as with any statistical analysis of data, the estimates themselves are always subject to some error. Finally, these data are for the first half of the year only and may not capture all changes in behavior that may occur during the course of the year.

Given these caveats, however, the changes in the quantity of services in response to changes in payments estimated from the 1992 data suggest that HCFA's baseline adjustment may have been too large. Calculations based on the regression analysis indicate a 0.8 percent offset in the quantity of services, roughly the same as the 1 percent offset that the Commission recommended in 1991 (PPRC 1991). It is, however, difficult to put too much faith in that single number. Perhaps more telling is the presence of an offset for visits where payments were increasing. Without being strictly quantifiable, this finding implies that HCFA's baseline adjustment was too high because the agency assumed no offset to fee increases.

This is not intended as a criticism of the methods or analysis HCFA used to determine the conversion factor. Hindsight is always sharper than foresight: predicting behavioral response ahead of time is far more difficult than measuring it after the fact, and it was inevitable that HCFA's assumptions would be somewhat in error. The 48 percent average offset for procedures obtained in this regression analysis is virtually identical to HCFA's assumption of a 50 percent offset for fee reductions. The principal error in HCFA's assumptions appears to have been in not allowing for reductions in the quantity of services in response to visit fee increases. Given the lack of data on this before 1992, it would be unfair to say that HCFA should have been able to predict this reaction prior to the implementation of the fee schedule.

The Commission is well aware that the initial response to resource-based payment of more nonsurgical procedures and fewer EM services is the opposite of the pattern of change that is needed. It views these responses as very short term. It continues to believe that with more time, these changes in the structure of payment will lead physicians to reorient their practices towards EM services and make those specialties for which EM services are relatively important more attractive.

Redistribution of Payments by Specialty

In addition to maintaining payments at the budget-neutral level, the fee schedule was intended to redistribute payment across services and areas. In general, fee levels would rise for EM services and for services delivered in rural areas. Because of this, primary care specialties, such as family and general practice, were expected to gain relative to more procedurally oriented specialties.²³

²³ In addition, removal of explicit specialty differentials was also expected to increase payments to family and general practice physicians.

Changes in the Level of Fees and Total Outlays. Analysis of 1992 data shows that payments per service did indeed increase for the EM-oriented specialties. General and family practitioners experienced a 10 percent increase in payment rates, while surgical specialties had an 8 percent reduction overall (Table 6-7).

The increase in payment per service for general and family practitioners, however, was not as large as expected. The 10 percent increase in payment per service is much less than the 17 percent increase predicted by the Commission's simulations, and HCFA's forecast of 15 percent and 17 percent increases for family practitioners and general practitioners, respectively (HCFA 1991b; PPRC 1992).

Table 6-7. Percent change in Medicare payment, by specialty, 1991-1992

Specialty	Payment per service	Volume per physician	Medicare payment per physician	Medicare revenues per physician ^b
Medical	-1	3	3	2
Cardiology	-7	2	-5	-6
Family/general practice	10	-4	6	6
Gastroenterology	-10	4	-6	-4
Internal medicine ^a	0	2	2	2
Other medical	-3	9	5	5
Surgical	-8	6	-2	-4
General surgery	-10	8	-3	-6
Ophthalmology	-9	4	-6	-5
Orthopedic surgery	-8	4	-5	-7
Urology	-5	12	7	7
Other surgical	-4	0	-4	-5
Radiology/pathology	-11	15	3	2
Radiology	-12	13	0	0
Pathology	-11	29	14	14
Other	1	-5	-4	-7
All physicians	-3	5	1	0

^aThe Commission simulations predicted a 2 percent increase in payments per service for nonprocedurally oriented internists and a 1 percent reduction for procedurally oriented internists. This analysis could not distinguish procedurally oriented and nonprocedurally oriented internists; such a distinction requires a sample of physicians instead of the sample of beneficiaries.

^bIncludes balance billing

Source. Commission analysis of 1991 and 1992 NCH files, 5 percent sample of beneficiaries.

Several factors help explain this 5 to 7 percentage point discrepancy. First, up to 2 percentage points may be due to the overall low level of fees, as discussed earlier. In addition, part of the discrepancy may be because family and general practitioners coded lower levels of visits. For

established patient office visits, a relatively stable visit class, coding intensity for general and family practitioners had a reduction of 2 percent (Table 6-8). Cardiologists, on the other hand, increased coding intensity by 8 percent, while orthopedic surgeons decreased coding intensity by 7 percent. These reductions result only from changes in the level of codes used, rather than from changes in the number of visits or payment.

The relative changes in payment for specialties other than general and family practice closely followed HCFA's projections and the Commission's simulations. In general, surgical specialties saw larger decreases in payment per service than did medical specialties (Table 6-7).

Table 6-8. Average coding intensity for established-patient office visits, by specialty, 1991-1992

Specialty	1991	1992	Percent Change
Medical	30.71	31.19	2
Cardiology	31.07	33.52	8
General/family practice	30.05	29.39	-2
Gastroenterology	31.26	31.73	2
Internal medicine	31.29	32.56	4
Other	30.50	30.52	0
Surgical	30.04	28.50	-5
General surgery	30.05	28.92	-4
Orthopedic surgery	29.88	27.91	-7
Urology	28.89	27.56	-5
Other	31.04	29.35	-5

Source. Commission analysis of 1991 and 1992 NCH files, 1 percent sample of beneficiaries.

The total Medicare payments a physician receives depend not only on the payment per service, but also on changes in the number and intensity of services billed. Although physicians saw a 3 percent reduction in payment overall, a 5 percent increase in services per physician led to a 1 percent increase in total Medicare payments per physician (Table 6-7). For urologists and pathologists, these increases in the quantity of services per physician were large enough to raise total Medicare payments per physician by 7 percent and 14 percent, respectively.

Pathologists experienced the largest gain in Medicare payment due to substantial increases in services billed (Table 6-7). An 11 percent reduction in payment per service accompanied a 29 percent increase in the number of services billed per physician. This increase resulted from standardizing the way in which pathologists bill for the number of specimens examined, rather than from a real increase in the number of tests provided to Medicare beneficiaries. Before implementation of the Medicare Fee Schedule, many carriers did not follow the CPT

definitions and bundled payment for multiple specimens. The new fee schedule, however, explicitly pays for each specimen individually as defined by the CPT.

Most changes in payments per physician resulted from changes in payment per service, not from the reductions in balance billing limits from 1991 to 1992.²⁴ The change in payment and balance billing limits resulted in a total Medicare revenue gain of 2 percent per physician in medical specialties, while surgeons faced declines of 4 percent per surgeon (Table 6-7). General surgeons saw the largest reduction in payments per physician due to decreased balance billing.²⁵ Whereas Medicare-allowed payments were reduced 3 percent per general surgeon, reductions in balance billing led to a 6 percent reduction in total Medicare revenue per surgeon. Across all physicians, total revenue per physician provided to Medicare beneficiaries did not change.

Perceptions of Payment Changes. From 1991 to 1992, payment per service increased 6 percent for visits and consultations. The Commission's survey of physicians provides an opportunity to see whether physicians noted these increased payments for EM services. In particular, physicians' responses to the survey were compared with the average changes expected to occur for each specialty in a given Medicare payment locality.

Despite the overall increases in payments for EM services, physicians generally did not perceive large increases in payment for EM services. When surveyed, 22 percent of physicians who perform visits and consultations indicated that their average reimbursements had gone up; only 1 percent said they had risen a lot. Eighteen percent said they had gone down a lot, and another 30 percent reported that they had decreased slightly. Almost one-third of primary care physicians perceived an increase in their visit and consultation payments, compared with half as many other physicians.

Physicians' perceptions of the changes in their EM services payments understate the average change in EM fees in their locality (Table 6-9). For example, in surveyed localities in which EM fees increased more than 20 percent on average, only 1 percent of physicians stated their total EM payments had gone up a lot, and 33 percent indicated they had risen a little. The rest believed their payments for EM services had stayed the same or decreased. These perceptions differed by specialty. In these same localities, 47 percent of primary care physicians believed their EM payments had increased, compared with only 21 percent of surgeons.

²⁴ Estimates of balance billing take the lesser of the percentage limit or the submitted charge as an upper bound for the total change in payment physicians received, since it is not possible to measure the actual amount the physician bills the beneficiary over the Medicare allowed charge. In 1991, balance billing was limited to the lesser of 125 percent of the recognized payment amount for nonparticipating physicians or the physician's 1990 maximum allowable charge. For EM services, the limit was 140 percent of the recognized payment. In 1992, the balance billing limit was reduced to the lesser of 120 percent of the payment amount for nonparticipating physicians or the 1991 limiting charge.

²⁵ Due to changes in codes for specialties from 1991 to 1992, thoracic surgeons, cardiac surgeons, and vascular surgeons were combined into the category for general surgeons.

Table 6-9. Physicians' perceptions of change in payment for EM services, by average changes in EM payment rates in practice locality
Percent of physicians

Perceived change in own payment for EM services	Average percentage change in EM fees in locality ^a			
	Less than 0	0-10	10-20	More than 20
Gone up a lot	1	0	1	1
Gone up slightly	9	15	24	33
No change	28	29	32	31
Gone down slightly	37	38	26	22
Gone down a lot	25	19	17	14
All responses	100	100	100	100

^aPercentages may not total to 100 because of rounding.

Source. Commission analysis of Harris Survey results.

For half the physicians who received higher EM payments, the increase was about as much as expected, but a third had expected larger increases. Of those physicians who believed their payments decreased, three-fourths said the drop was worse than they had anticipated. Those whose payment changes failed their expectations attributed the loss primarily to the fee levels, although about half also blamed the coding system for EM services and the limits on balance bills. The physicians were divided on whether payments for all visit and consultations codes or just for particular ones were lower than expected.

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CHAPTER 7

USE OF THE MEDICARE FEE SCHEDULE BY OTHER PAYERS

The Omnibus Budget Reconciliation Act of 1989 (OBRA89) directed the Medicare program to pay for physicians' services using a resource-based fee schedule. Although this provision applies only to Medicare, its applicability to other payers is of interest to many. Other payers can use aspects of the Medicare Fee Schedule, such as the relative value scale (RVS), to modify their payment structures. To the extent that other payers adopt similar policies, the goals of Medicare's resource-based payment reform will be achieved more rapidly.

Over the last two years the Commission has followed the initiatives by private payers and state Medicaid programs to revise their payment methods in line with the Medicare payment reform. In its *Annual Report to Congress 1991*, the Commission discussed how the Medicare Fee Schedule could affect private payers and described how these payers were considering altering their payment policies on the basis of the new fee schedule (PPRC 1991a). The Commission's *Annual Report to Congress 1992* provided an update on the activities of private payers and reported that three state Medicaid programs had either incorporated Medicare's RVS into their fee schedules or were planning to do so (PPRC 1992).

In December 1992 the Commission conducted a survey of private payers and Medicaid programs to learn how these payers are using the policies of the Medicare Fee Schedule. The Commission contacted the Blue Cross and Blue Shield Association and a sample of private payers (Blue Cross Blue Shield plans and commercial insurers).¹ The Commission also contacted all state Medicaid programs. This chapter presents the findings of this survey. The first section describes activities of both Blue Cross Blue Shield (BCBS) plans and commercial insurers, and the second section reports on the activities of state Medicaid programs.

With the implementation of the Medicare Fee Schedule in January 1992, private payers and Medicaid programs increased their efforts to revise their payment methods. At present, many BCBS plans have incorporated Medicare's RVS into their methodologies for paying physicians. A few commercial insurers have taken steps to integrate Medicare's RVS into their charge-based systems. In addition, nine Medicaid programs have or soon will adopt Medicare's RVS as the basis of their fee schedules, and eight others are actively exploring its applicability.

¹ Included in the sample of commercial insurers were large national companies and commercial managed-care organizations, such as independent practice associations and preferred provider organizations.

PRIVATE PAYERS

Private payers, concerned with controlling the growth of overall expenditures and maintaining high physician participation rates across all specialties, see Medicare's RVS as a way to gain more control over their payments than they had in purely charge-based systems. The RVS gives payers control over the relative relationship between fees for different services. Equity in relative payments can help increase physician participation rates.

The Commission surveyed 20 BCBS plans and 16 commercial insurers or plans. The extent to which these payers have modified their payment structures varies widely. Some have completely revised their payment methods by adopting aspects of the Medicare Fee Schedule, while others have made no changes.

In general, there has been more activity among BCBS plans in adopting payment policies consistent with the Medicare Fee Schedule than among commercial insurers. The Blue Cross and Blue Shield Association conducted a survey of all 62 member plans in the summer of 1992. Of the 37 plans that responded, 29 indicated intentions to implement Medicare's RVS. According to that survey, three plans had already adopted the RVS for one or more product lines and nine plans intended to do so in 1993 (Blue Cross and Blue Shield Association 1992).

Participating provider agreements have facilitated BCBS plans' efforts to revise their payment methods. Each year, increasing numbers of physicians have signed participating physician agreements with BCBS plans. Through these agreements, plans establish the terms for payment and physicians relinquish the right to balance bill. Commercial insurers have been less aggressive in revising their payment methods because they do not have such agreements, except in preferred provider organizations (PPOs).

Two basic strategies were followed by those insurers that adopted Medicare's RVS. One strategy replaces the usual, customary, and reasonable (UCR) methodology, typically used by private payers, with a fee schedule based on Medicare's RVS. A second strategy keeps the UCR methodology in place and adds maximum allowable amounts, based on the RVS, which serve as a new charge screen.

Although the adoption of Medicare's RVS is a departure from the traditional UCR payment methodology, private payers are not using conversion factors that reduce their overall expenditures for physicians' services. Rather, budget-neutral conversion factors are determined so that total expenditures for physicians' services remain the same, while payments for individual services are changed.

Strategies for Adopting Medicare's RVS

The first strategy replaces the UCR system with a published fee schedule. Plans using this strategy adopt Medicare's RVS along with their own conversion factor to determine a fee for each service. This fee is paid regardless of the billed amount. Interviews with BCBS officials indicated that a growing number of plans are following this strategy. In these cases, plans are using published fee schedules based on Medicare's RVS for their core fee-for-service products, such as participating physician networks and PPOs.²

Some plans use different conversion factors for different products. One BCBS plan, for example, pays its PPO physicians according to a fee schedule that is determined by a conversion factor that is about 10 percent to 15 percent less than the conversion factor for its traditional fee-for-service product (participating provider network).

Some commercial PPOs and independent practice associations (IPAs) are also using this first strategy.³ These organizations, which typically pay physicians according to fee schedules, are now incorporating Medicare's RVS into them. For example, one major PPO uses Medicare's RVS only for those services that have no unit values assigned in the California Relative Value Scale, which the PPO has historically used and is not resource based. Procedures with new Current Procedural Terminology (CPT) codes are examples of such services. In addition, an IPA uses Medicare's RVS to set fee schedules for medical specialists.

The Commission is unaware of any commercial indemnity plan that has replaced the UCR method with a resource-based fee schedule. A few commercial insurers have reported that they are considering creating a new product that will pay physicians according to a resource-based fee schedule. It is envisioned that these products would use Medicare's RVS and a conversion factor as close as possible to Medicare's. In considering these new products, commercial insurers are responding to pressure from clients, such as self-insured employers, who fear that they will face higher charges as a result of physicians shifting costs to privately insured patients to make up for lower Medicare payments. The employees, however, would not have the balance billing protections that are built into the Medicare system and would be liable for the difference between what physicians charge and the fee schedule amount.

The second strategy keeps elements of the UCR system but replaces customary charge screens with a screen based on Medicare's RVS. For services considered overvalued by

² These products are characterized by various contractual agreements between the plans and physicians. Participating provider networks are defined as all physicians who see BCBS patients and who agree to accept the payments made by the plan (plus copayments by the patient) as payment in full for all services they perform. Preferred provider organizations are typically defined as a group of the participating physicians who have been selected by the plan (e.g., theoretically on the basis of their efficiency) and who agree to offer their services at a discount in return for an increased volume of patients.

³ An IPA is a health maintenance organization that contracts with individual physicians to provide services to health maintenance organization members at a negotiated per capita or fee-for-service rate.

the RVS, the new screen reduces the amount the insurer will pay. For services such as visits, whose relative values are increased by Medicare's RVS, the new screen raises the maximum amount the insurer will pay. Since the UCR methodology is not completely abandoned, however, the usual charge screen limits the payment to the physician.

One permutation of the second strategy is to use the RVS selectively to identify overvalued or undervalued services. Maximum allowable charge amounts (charge screens) are then modified to lower or raise the payment amounts for these services accordingly. For example, executives from several BCBS plans described how their plans froze fees for all services for a year and then incrementally increased the maximum allowable charge only for those services considered undervalued by the Medicare RVS.

These actions parallel the incremental steps taken by Medicare in the years before implementation of the fee schedule. In OBRA87, the Congress moved in the direction of resource-based payments by reducing prevailing charge screens for certain procedures determined to be overvalued by the RVS. The policy was broadened in OBRA89 and OBRA90.

Of those contacted by the Commission, the majority of the BCBS plans and a minority of the commercial insurance companies have modified their payment systems using this second strategy. Some BCBS plans have phased in RVS-based screens, initially setting them at a specified percentage above Medicare Fee Schedule levels. Over time, this differential is reduced.

Some Blue Cross Blue Shield plans and commercial companies have used Medicare's RVS to price new CPT codes, especially the new evaluation and management (EM) codes or new codes for which charge profiles do not exist. In the case of the new EM codes, new definitions and distinctions between the levels of visits make it particularly difficult to know how to value one visit code versus another. Medicare's RVS provides payers with a guide.

Regardless of which strategy is used, private payers in certain cases have retained some of their previous payment policies. For example, a few private payers had existing policies to pay equal amounts for cesarean and vaginal deliveries in order to eliminate any financial incentive for physicians to perform unnecessary cesarean sections. Under an RVS-based payment method, these private payers use the cesarean delivery RVS fee for vaginal deliveries as well.⁴

⁴ At the time of the Commission's survey, private payers were using the relative value units from the Medicare Fee Schedule for 1992. The relative value units for cesarean and vaginal deliveries, bundled to include both prenatal and postpartum care, varied significantly, 34.41 and 26.10 respectively. These two codes were revised in 1993 by the Health Care Financing Administration and were made virtually equal (35.31 for cesarean delivery and 37.03 for vaginal delivery).

Barriers to Adoption

Most Blue Cross Blue Shield plans that have not yet adopted the RVS in some fashion expressed great interest in it and indicated they probably would revise their payment methods in 1994. Some BCBS plan executives explained that changes had not already been made because participating physician agreements in many cases need to be rewritten in order to alter payment policies.

Commercial insurers face various barriers to further incorporating Medicare's payment policies into their existing payment systems. First, compared to Medicare, even the largest commercial insurers have limited market shares among physicians. This makes it difficult for them to set physicians' fees. Second, commercial insurers generally cannot enforce balance billing restrictions on their own and therefore cannot protect patients from increased out-of-pocket costs. While the Congress has given Medicare the legal authority to impose limits on physicians' charges, commercial insurers do not have this authority unless physicians accept such limits as part of a contractual agreement.

Another consideration for commercial insurers is that, unlike BCBS plans, their operations are not limited to one geographic area. The executives interviewed explained that this adds a layer of complexity to the adoption of fee schedules based on Medicare's RVS. This is because adjustments for geographic differences in practice costs are necessary. Most executives thought the geographic adjusters used currently by Medicare are not as accurate in their specific market areas as the charge profiles they have developed.

MEDICAID PROGRAMS

Nine state Medicaid programs have implemented, or have decided to soon implement, Medicare's relative value scale: Arizona, Florida, Georgia, Michigan, North Carolina, Ohio, Oklahoma, Texas, and Washington. These nine programs account for about one-quarter of national Medicaid spending for physicians' services.

Eight additional states are actively exploring the application of the RVS but have not officially decided whether to adopt it. Several states, for example, are doing analyses to determine what the financial impact of the RVS payment methodology would be on their total expenditures. A few other states considering implementing the RVS are using advisory panels made up of physicians to determine which services would be exempted from the RVS payment method (Table 7-1).

Medicaid programs that have adopted or are exploring Medicare's RVS have had payment rates closer to Medicare's than to the average Medicaid program. In 1989, Medicaid programs, on average, paid 64 percent of Medicare's allowed charges (PPRC 1991b). Of the 17 programs that either implemented or are actively exploring the RVS, all but New York

paid at or above the Medicaid average. Relatively high payment rates could facilitate states' adoption of Medicare's RVS because payments slated to be reduced would likely remain high enough to maintain access. The New York Medicaid program is a notable exception because it paid 28 percent of Medicare allowed charges in 1989 (PPRC 1991b). New York is now exploring the applicability of the RVS to determine which aspects are appropriate for that state.

Table 7-1. State Medicaid programs in various stages of implementing Medicare's relative value scale

RVS already implemented	RVS to be implemented soon	Actively exploring application of RVS but no decision yet
Arizona ^a Georgia Michigan North Carolina Oklahoma Texas Washington	Florida Ohio	Alaska New York Nevada Oregon Tennessee Utah Vermont Virginia

^aIn Arizona, the RVS is used to pay for the care of non-HMO patients and patients who are eligible but not yet enrolled in an HMO.

Source. Commission's November 1992 survey of 53 Medicaid programs (updated January 1993).

For the purposes of this discussion, a narrow definition of the RVS is used. The nine states adopting the RVS base their fee schedules on Medicare's published relative value units. Two additional states, Maine and Massachusetts, developed fee schedules on the basis of earlier studies by William Hsiao and his colleagues at Harvard University. Their fee schedules differ significantly from the nine states discussed here.⁵

The following section outlines why states are (or are not) adopting the RVS, and ways in which states' fee schedules differ from the Medicare Fee Schedule. Common reasons for adopting Medicare's relative value scale include equity and fairness among physicians' payments, patient access to primary care services, and administrative simplification. These

⁵ Maine does not use the Medicare relative value units but rather calculates Medicaid payment rates by considering the work component weights from an earlier Hsiao study to derive set dollar amounts. These dollar amounts are updated each year based on state legislative allocations. Fewer than half of the Medicaid service codes in Massachusetts are paid using Medicare's RVS. Massachusetts adopted Medicare's RVS for a few services with new CPT codes for which a crosswalk between its old codes and the new CPT codes was impossible. For those services where a one-to-one match was possible, the state retained its existing payment methodology, which is a fee schedule based on the original 1985 Hsiao study.

states have made some technical changes to policies of the Medicare Fee Schedule to take into account their own circumstances. The majority of Medicaid programs have not adopted Medicare's RVS. Reasons for this range from budget constraints to general ambivalence about changing their existing payment method.

Reasons for Adopting Medicare's RVS

The RVS gives states the basis for a fee schedule that has a more rational, resource-based structure. Fee schedules based on historical charge data have resulted in irrational relative payments for different services. The use of Medicare's RVS addresses existing imbalances in payment levels.

One way the RVS benefits Medicaid programs is by increasing the relative payments for primary care services. Medicaid payments for all services historically have been substantially lower than the payments of other payers and especially low for evaluation and management services (PPRC 1991b). These low EM payments are regarded as a major access barrier for Medicaid beneficiaries. Significantly increased EM fees under the RVS may reduce this barrier. Texas, for example, is now spending 34 percent more for all EM services than before it adopted the RVS. Before implementing the RVS, Texas paid, on average, \$18.63 for an intermediate office visit with an established patient (CPT 99213). It now pays \$26.87.

A second benefit of using Medicare's RVS is that it offers Medicaid programs a way to decrease the administrative costs associated with updating their fee schedules. Instead of revising codes themselves, states can take advantage of the work the Health Care Financing Administration (HCFA) put into devising and refining the RVS. By making the payment system of their programs more like Medicare's, states can update their fee schedules simply by changing the conversion factor and integrating other HCFA changes, such as incorporating new relative values.

Differences from the Medicare Fee Schedule

State Medicaid programs incorporating the Medicare Fee Schedule into their payment policies generally have much lower conversion factors than Medicare's 1992 conversion factor of \$31.00. Among the nine states implementing Medicare's RVS, the conversion factors are, on average, about 16 percent lower than Medicare's. Michigan, for example, has two conversion factors, \$19.40 and \$24.80.⁶ Oklahoma pays at 75 percent of Medicare's payment levels.

Limited funds is the principal reason these conversion factors are lower. Most of these states will implement the RVS in a budget-neutral manner. One state is implementing the RVS with

⁶ Michigan decided to prevent RVS-based payments from falling below pre-RVS levels. The higher conversion factor of \$24.80 is used when the \$19.40 conversion factor would result in payments below the pre-RVS levels.

a 5 percent reduction in total spending for physicians' services. Only a few of the states that have already implemented the RVS — or that plan to do so — have also increased aggregate physician spending.

Obstetric and pediatric services are of particular concern to Medicaid programs because the programs primarily cover women and children. In the Texas Medicaid program, for example, normal obstetric care is projected to account for 25 percent to 30 percent of state fiscal year 1993 expenditures for physicians' services.

Medicaid programs generally are not using Medicare's relative value units (RVUs) for obstetric and pediatric services. Medicaid programs adopting the RVS believe that the RVUs for pediatric and obstetric services have been and continue to be too low. To ensure access to these services, many of these states had previously raised payments for obstetric and pediatric services beyond what would be paid under the RVS with the states' own conversion factors. One state that has implemented the RVS and wanted to use Medicare's RVUs for obstetric services could not when HCFA denied the state's equal access plan on the grounds that its payment rates for these services would be too low (see Chapter 15).

The Commission noted in its *Annual Report to Congress 1992* that 1992 relative values for obstetric services needed attention if the Medicare RVS were to be used by other payers, such as Medicaid programs (PPRC 1992). Total Medicare RVUs for obstetric services were increased by HCFA for 1993 (see Chapter 9). The total RVUs for a normal delivery (CPT 59400), for example, went up from 26.10 in 1992 to 37.03 in 1993. Most states implementing the RVS still think, however, that the 1993 payment levels for obstetric services are too low. They continue to believe that in order to ensure access to obstetric services and get HCFA to approve their state equal access plan, payments for these services must be higher than those calculated using Medicare's 1993 RVUs.

The Commission has also noted previously that some of the Medicare relative values might need to be adjusted when applied to certain services delivered to children. The work involved in performing certain procedures on an infant or a young child may differ significantly from work entailed in performing the same procedure on an adult patient (PPRC 1992).

The concerns with certain pediatric RVUs were not addressed in HCFA's November 1992 final rule. Under legislation (H.R. 11) passed by the Congress but vetoed by President Bush in 1992, the Secretary of Health and Human Services would have been required to conduct a study to determine whether there are significant variations in the resources used to provide similar services to different populations. The Secretary would also have been required to develop relative values for the full range of pediatric services.

Since Medicaid programs are using low conversion factors, the impact of low obstetric and pediatric RVUs is potentially more problematic for Medicaid than for other payers. States have generally addressed the issue of low obstetric and pediatric RVUs simply by keeping

their existing payment rates. Washington, on the other hand, adopted a conversion factor of \$49.02 for obstetric services and a conversion factor of \$38.14 for pediatric services to use with the Medicare's RVUs, compared with a conversion factor of \$23.86 for adult EM services.⁷ Texas created a Physician Payment Advisory Committee to work with the state Department of Human Services to impute payment amounts for pediatric and obstetric services. The committee is made up of 10 physicians from the state medical association and five nonphysicians. Virginia, which might adopt the RVS, is assembling a similar committee.

Beyond obstetric and pediatric services, states must also use a different payment methodology for Medicaid services that are not covered by Medicare and consequently have no assigned relative values (PPRC 1992). Preventive services, for example, need to have relative values or payment rates assigned by each state. Most states adopting the RVS have decided to keep their existing payment methodology for preventive services.

State programs adopting Medicare's RVS are making other changes to the policies of the Medicare Fee Schedule. A transition period, such as the five-year phase-in of the Medicare Fee Schedule, is being used by only one state. While the 1993 Medicare Fee Schedule has two conversion factors (one for surgical and one for nonsurgical services), all states using the RVS (except Arizona) have not followed this policy. Further, although the Medicare program uses geographic adjusters to pay physicians in different parts of a state different amounts, all states using the RVS have one fee schedule for the entire state.

States Not Adopting Medicare's RVS

Most states not using the RVS either lacked the time to change their existing payment method or were generally ambivalent about the change. Of the 53 Medicaid programs surveyed, only one completely rejected the possibility of adopting the RVS at some point.

A few states have not yet adopted Medicare's relative value scale due to budget constraints. These states, for example, recognize that under the RVS they would have to pay more than they currently do for evaluation and management services. At the same time, their existing payments for services slated to be reduced under the RVS are already low and cannot be further reduced for access reasons; the states cannot simply shift resources from one group of services to another to pay for the implementation of the RVS.

For a few states not planning to adopt Medicare's RVS, it is influencing the way their Medicaid programs set payment rates. Some of these states look at Medicare payment rates as a comparison when revising their own fee schedules. Several states use the RVS to price new CPT codes.

⁷ These conversion factors are significantly higher than Medicare's 1992 conversion factor of \$31.00 for all services.

HCFA and the States

For those states that want to implement the RVS, their efforts would be facilitated if HCFA played a more active role in the process. It could assist state efforts substantially by coordinating the activities of states interested in the RVS. State Medicaid program representatives were generally unaware of other state programs that had adopted the RVS, or were considering it. Furthermore, representatives in several states that were leaders in the implementation of the RVS were unaware of major changes HCFA had made during the RVS refinement process. As late as January 1993, for instance, they did not know that obstetric RVUs for 1993 had been increased.

Duplication of effort and professional isolation at a time when state resources are seriously constrained are obvious concerns. Ideally, states adopting or planning to adopt the RVS should be able to learn from both HCFA and those states that have already adopted Medicare's RVS. Including state Medicaid representatives in the RVU refinement process would allow HCFA to understand better the special needs of states and would provide Medicaid programs access to important information.

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PART III

REFINING MEDICARE PHYSICIAN PAYMENT POLICY

[illegible]

PAYMENT FOR PRACTICE EXPENSE AND MALPRACTICE EXPENSE

The Medicare Fee Schedule consists of three components that correspond to the principal types of resources used to provide physicians' services. One of these, physician work (corresponding to physician net income), was developed by William Hsiao and his colleagues at Harvard University through a large research study designed to measure the relative time and effort required to furnish different physician services. The fee schedule's other two components — practice expenses and malpractice expenses — were calculated from historical charge levels through formulas specified in the Omnibus Budget Reconciliation Act of 1989 (OBRA89).

The Commission has long questioned the appropriateness of these charge-based practice expense and malpractice expense relative values as part of the Medicare Fee Schedule. Since it suggested the OBRA89 approach as an interim measure in the *Annual Report to Congress 1989*, the Commission has been working to develop methods for calculating practice expense and malpractice expense relative values that are more consistent with the reform goals of resource-based payments (PPRC 1989). This work has led to the identification of methods for calculating these two components that the Commission thinks are more appropriate than the OBRA89 formulas. Both the practice expense and malpractice expense methods have been described in previous reports to Congress, and each is the topic of a special research report issued by the Commission (PPRC 1992b; PPRC 1992c).

RECOMMENDATION

The Congress should revise the practice expense component of the Medicare Fee Schedule so that it will be resource based. Practice expense relative values should be based on data about the direct costs incurred in delivering each service and an incentive-neutral formula to allocate indirect costs. A transition to new practice expense relative values should be introduced beginning in 1997. This date will allow for completion of the current fee schedule transition process and for development and refinement of the resource-based approach. The Health Care Financing Administration should be directed to collect direct cost data and to develop solutions for outstanding issues in the development of resource-based practice expense relative values.

The Congress should revise the malpractice expense component of the Medicare Fee Schedule so that it will be resource based. Malpractice expense relative

values should be based on data about the relative malpractice risk incurred in delivering each service. A transition to the new malpractice expense relative values should be introduced beginning in 1997. This date will allow for completion of the current fee schedule transition process and for development of malpractice expense relative values based on the risk-of-service approach. The Health Care Financing Administration should be directed to collect data on risk groups and relative insurance premiums across insurers that can be used to develop new malpractice expense relative values.

In addition to being troubled about including charge-based components in the fee schedule, the Commission is concerned about the inequities that are inevitable in combining historical charges with weighted means of specialty-level survey data for practice and malpractice expenses. The practice expense and malpractice expense relative values for services provided by physicians in more than one specialty are based on across-specialty means of revenue shares. Physicians in some specialties, therefore, may be systematically overpaid through averaging with higher-share specialties while others may be systematically underpaid. This problem could be avoided by developing relative values based on service-level rather than on specialty-level data, as described in the resource-based approaches. The two recommendations work together to correct these outstanding weaknesses of the fee schedule, and thus should be viewed as joint recommendations.

The rest of this chapter summarizes the research activities that have led to the Commission's recommendations in these two areas. It describes the expected benefits of the proposed approaches, their attendant costs, and the outstanding issues that must be resolved before these approaches can be used as the basis for paying physicians.

RESOURCE-BASED PRACTICE EXPENSE RELATIVE VALUES

The practice expense component was included in the Medicare Fee Schedule to reflect the costs of nonphysician staff, supplies, equipment, utilities, and rent, which accounted for 43 percent of physicians' revenues in 1991 (AMA 1992). Currently, this component of the fee schedule is calculated from historical Medicare-allowed charges and data on practice expense revenue shares for different specialties, as specified in OBRA89. These shares are calculated for each service from the practice expense revenue shares of the specialties that perform the service. So, for example, if survey data show that the revenue share for specialty A is 40 percent and that for specialty B is 50 percent, and they both perform an equal volume of a particular service, then the practice expense share for the service would be 45 percent. This share is then multiplied by the average allowed charge for the service to calculate its relative value.

The reliance on historical charge levels to generate relative values has concerned the Commission because there is no indication that the resulting values reflect relative resource

use of different services. If the fee schedule values are indeed distorted relative to actual resource use, they will limit the fee schedule's ability to promote the most appropriate use of resources. In addition, as mentioned above, the use of average revenue shares across specialties may lead to overpaying or underpaying different specialists.

Development of the Resource-Based Approach

The resource-based approach developed by the Commission to calculate practice expense relative values is based on basic accounting principles under which costs are divided into two types, direct and indirect. Direct costs include medical staff time, equipment, and supplies, which are associated with the provision of a particular service to an individual patient. Indirect costs include items, such as rent and utilities, that are common to many or all services. Under this approach, data are needed on the direct costs involved in providing each service in the fee schedule; following accounting conventions, an appropriate allocation basis can be chosen to spread indirect costs across all services.

Since it first described the basic accounting framework in its *Annual Report to Congress 1990*, the Commission has been involved in several activities to develop and understand the implications of a resource-based approach to pay for practice expenses (PPRC 1990). Its primary activity was to conduct a pilot study in which resource-based relative values were calculated using this simple accounting framework, in an effort to uncover issues related to data collection and calculation of relative values. For the pilot study, direct cost data for several hundred services were collected from a large multispecialty clinic. These data, along with an allocation formula for indirect costs, were used to develop an illustrative set of resource-based estimates to explore the issues involved in using this approach as part of the fee schedule. Described in *Practice Expenses Under the Medicare Fee Schedule: A Resource-Based Approach*, this study has led the Commission to conclude that it would be feasible to use this construct to develop relative values that better reflect relative resource use than the current approach (PPRC 1992b).

Based on estimates from the Commission's limited data, the resource-based approach would lead to a redistribution of about one-quarter of practice expense payments across services. Fewer than 10 percent of services would have practice expense payments within 15 percent of their payments under the OBRA89 approach. Because practice expenses account for just over 40 percent of total revenues, this redistribution is less dramatic for total payment levels; more than 30 percent of services would have total payments within 15 percent of their OBRA89 levels. This redistribution shifts payments across service groups and physician specialties (Tables 8-1 and 8-2). The estimates suggest that, relative to the OBRA89 baseline, total payments for evaluation and management (EM) services would be about 12 percent more under the resource-based approach, while those for surgical global services would be 29 percent less. Among specialty groups, family and general practitioners would receive total Medicare payments about 13 percent higher than under OBRA89, while thoracic surgeons would receive about 20 percent less.

The report summarizing this research was widely circulated for review and comment by interest groups, researchers, and staff from the Congress and the Department of Health and Human Services (HHS) in 1992. In addition, interested parties have been invited to address this issue at the Commission's annual hearings for several years. Although some observers have expressed concern about certain specific elements of the Commission's estimates and the impact of the redistribution, they have not questioned the fundamental approach of identifying direct and indirect costs and treating them separately.

Table 8-1. Ratio of payments under the resource-based and OBRA89 methods, by selected service families^a

Service family	Practice expense payment ratio	Total payment ratio
Evaluation and management	1.33	1.12
Diagnostic procedures	0.72	0.81
Technical procedures	1.00	1.00
Surgical global services	0.44	0.71

^aRatio calculated as resource-based/OBRA89, where OBRA89 values are based on Commission simulations of fully implemented fee schedule. Resource-based estimates are calculated with limited data on direct costs and should be interpreted as illustrative only.

Source. Commission practice expense data, BMAD-I data, and HCFA's final rule (HCFA 1991).

To make sure that the approach is both sound and feasible, the Commission has periodically convened practice administrators, consultants, and other researchers during the past several years to discuss related ideas and issues. Involving these health care professionals has kept the Commission aware of physicians' concerns and perceptions of the method. In general, the input from these observers suggests that the accounting framework is accessible to physicians. In addition, inclusion of researchers has helped keep the Commission abreast of important analytic alternatives and innovations in this area.

In November 1992, the Commission held a public conference on practice expenses and the Medicare Fee Schedule at which government, academic, and private-sector investigators presented their research.¹ The conference provided a forum for those who have been studying this issue to help the Commission and others understand the strengths and weaknesses of various approaches to paying for physicians' practice expenses. Despite some important areas of disagreement (several of which are described below), participants unanimously supported an approach that separately identifies direct and indirect costs.

¹ The conference presentations and discussion are summarized in Appendix B.

Several commentators on the Commission's work in this area have raised a question that warrants investigation: given the expected impact of the resource-based approach across different specialties, what is the current composition of practice expenses across these different groups? This is a difficult issue to analyze because it is impossible to disentangle the effect of previous payment policies on the use of resources, especially if payments have been relatively more or less generous across specialties. To gain some insight into this issue, the Commission contracted with researchers at the Center for Health Economics Research (CHER) and at Project HOPE to analyze data from the Physician Practice Cost and Income Survey (PPCIS) of 1988.

Table 8-2. Ratio of payments under the resource-based and OBRA89 methods, by selected specialties^a

Specialty	Practice expense payment ratio	Total payment ratio
Cardiology	0.78	0.90
Family/general practice	1.33	1.13
Gastroenterology	0.68	0.85
Internal medicine	1.13	1.05
General surgery	0.86	0.94
Ophthalmology	0.77	0.88
Thoracic surgery	0.56	0.79

^aRatio calculated as resource-based/OBRA89, where OBRA89 values are based on Commission simulations of fully-implemented fee schedule. Resource-based estimates are calculated with limited data on direct costs and should be interpreted as illustrative only.

Source. Commission practice expense data, BMAD-I data, and HCFA's final rule (HCFA 1991).

Analysis of sample means from the PPCIS data, adjusted for local price variation, shows that medical and surgical specialties report different levels of expense for most types of costs (Table 8-3). For example, medical specialists spend an average of \$51,300 annually on nonphysician employees, whereas surgeons spend an average of \$65,000, even though they report the same number of full-time equivalent (FTE) employees. Interestingly, a larger proportion of the surgeons' staffs are administrative personnel, who generally are paid less than clerical staff. The higher staff costs for surgeons are also notable given that surgeons report seeing about 16 percent fewer patients in their offices each week. Although many of the differences in means by specialty reported in Table 8-3 are not statistically significant,

multivariate analysis of PPCIS data do reveal statistically significant higher reported labor and rent expenses for surgeons than for medical specialists.²

Table 8-3. Practice expenses and patient volumes per full-time equivalent (FTE) physician, 1988

Type of expense or volume	All physicians	Medical specialties ^a	Surgical specialties ^b
Practice expenses (thousands of dollars)			
Total expenses	111.3	108.3	137.4
Non-physician employees	53.0	51.3	65.0
Office	21.0	21.3	28.7
Medical equipment	5.0	5.3	7.2
Medical supplies	11.9	13.1	12.6
Automobile	2.3	2.3	3.0
Continuing medical education	2.5	2.0	3.5
Miscellaneous	15.6	13.2	17.3
Patient volumes (number of patients per user)			
All patients	118	125	111
By site			
Office	83	90	76
Emergency room/clinic	9	7	6
Surgery	4	2	8
Hospital rounds	22	26	21
Ratio of FTE non-physician employees to physicians			
All employees	2.7	3.1	3.2
Administrative employees	1.5	1.7	2.0

^aMedical specialties include general/family practice, internal medicine, cardiology, gastroenterology, and other medical (excluding pediatrics, obstetrics/gynecology, and psychiatry).

^bSurgical specialties include general surgery, orthopedics, ophthalmology, urology, cardiothoracic surgery, and other surgery.

Source. Physician Practice Cost and Income Survey 1988. The survey results were adjusted for geographic variations in cost.

A final element of the Commission's work in this area has been close collaboration with staff at the Prospective Payment Assessment Commission (ProPAC) on its research into reforming facility payment for hospital outpatient departments and ambulatory surgical centers. Many of the issues with which ProPAC must grapple to design appropriate facility payment policy for services provided in different settings are similar to those

² These regressions controlled for presence of salaried physicians in practice, region, acceptance of Medicaid and Medicare patients, practice size, urban location, rent and wage indexes, medical or surgical subspecialty, and the interactions among many of these variables. Because the regressions included dummy variables for specialty, only solo and single specialty group practices were included; the univariate measures in Table 8-3 include these practices plus multispecialty groups.

involved in developing a resource-based approach to paying for practice expenses in physicians' offices. Current inpatient and outpatient facility and OBRA89 physician practice expense payment policies may lead Medicare to overpay for practice expenses for nonoffice care and result in inconsistent coinsurance exposure for beneficiaries, among other problems. The Commissions share a goal that the eventual resolution of these issues will lead to a system of physician and facility payment that incorporates consistent incentives across settings and is fair to physicians, patients, and the Medicare program.

Expected Benefits and Costs of the Resource-Based Approach

On the basis of its own analysis and discussions with others, the Commission has concluded that the resource-based approach offers several important improvements over the current one:

- It divorces the fee schedule from the previous customary, prevailing, and reasonable charges (CPR) payment policy and fulfills the original intent of payment reform to better align relative payments with relative resource use.
- It provides a framework for establishing service-specific payment differences that reflect the different resources for which physicians are responsible in different settings. Under the resource-based approach, the site-of-service differential introduced by the Health Care Financing Administration (HCFA) can be greatly improved by moving from a fixed percentage difference for all affected services to a service-specific difference determined by costs in different settings.
- It is based on a process that can be used to develop values for new services and to revise values for existing services that undergo important changes in their production process, such as the introduction of new technologies.
- It is developed from accepted accounting principles that are comprehensible to physicians and their administrative staffs.

Alternative approaches presented at the Commission's conference would achieve some, but not all, of these improvements. Most of the alternatives use regression techniques to estimate costs (or a similar attribute) of services from aggregate practice data. These approaches use information on practice costs and service mix to isolate the marginal costs associated with each service or group of services. Theoretically, cost functions can be used to estimate the fixed and marginal costs related to a production process. Within a particular application, however, they may not be well-enough defined to produce reliable and consistent estimates. That is, slight changes in the functional form used to estimate a cost function can lead to dramatically different cost estimates. This is particularly true if the number of products for which cost estimates are required is quite large, which is the case for physicians' services.

All of the alternatives researchers are studying eschew a charge-based approach. Analytic approaches that rely on aggregate historical cost and volume data, however, may not be able to develop reliable service-level site differences and cannot promptly estimate costs of new services or those revolutionized by emerging technologies. Such approaches are also likely to lead to estimates that reflect resource use encouraged by previous payment policy, which may not be efficient. Finally, although these approaches are based on accepted economic principles and tools, many of the affected stakeholders do not understand them. This has been an important concern of many participants in the Commission's discussions. None of the researchers involved in the conference thought that these analytical approaches could support estimating service-level relative values for all of the services in the fee schedule.

Even though the resource-based approach appears to be an improvement over the OBRA89 method, there are some important questions and outstanding analytical issues associated with its use. The principal cost associated with this approach is the development of a database of direct costs sufficiently rich to support estimating relative values. Another consideration is the disruption that would accompany a change in payment rates.

During its discussion of resource-based practice expense relative values, the Commission has been quite concerned about both of these issues. As for the data needs of the resource-based approach, the HCFA-sponsored cost survey now being conducted by the Center for Health Policy Studies (CHPS) may give the agency much of the data it needs to develop resource-based relative values. This study, which will include data from 48 physician practices on several hundred services, could provide a core database on direct costs and an approach that could be used to collect data on more services from more practices. Although some additional data will be required beyond the CHPS project, the Commission believes these can be collected in such a way that the additional expenditure will be justified by significant improvement in the relationship between the relative values of the fee schedule and actual resource use.

The Commission has also been concerned about disrupting the current transition to the Medicare Fee Schedule, which will end in 1996. It is recommending, therefore, that transition to a resource-based practice expense component be delayed until 1997. Again, as with data collection costs, this concern does not outweigh the expected gains from improving the practice expense component of the fee schedule. The Commission thus has decided to recommend that the Congress call for determining the practice expense component by the resource-based approach, using standard accounting practices to assign direct and indirect costs to individual services. As the Congress did with the physician work component in OBRA89, it can define the overall approach of the method in legislation, but let HCFA resolve outstanding design issues as the agency develops requisite regulations.

Outstanding Issues

Before resource-based relative values can be developed for the Medicare Fee Schedule, several important issues must be resolved. These are:

- choosing the best basis for allocating indirect costs,
- developing appropriate definitions of direct and indirect costs that allow for meaningful variation without undue increase in data collection requirements and that clearly address the issue of medical staff downtime, and
- combining data from many practices to develop a single set of relative values.

Although some aspects of these issues could be informed by more research, they are largely design issues and decisions that HCFA could make as it develops regulations. Each issue was considered throughout the course of the Commission's research and discussed at the practice expense conference, as described in the rest of this section.

Indirect Cost Allocation Basis. In its 1990 annual report, the Commission argued that the basis for allocating indirect costs should be incentive neutral, ensuring that physicians recover their indirect costs in some way that does not create incentives to provide certain services or to practice in one setting versus another (PPRC 1990). In its 1991 annual report, the Commission suggested that physician time per service, as captured in the Harvard research on physician work, would perhaps be the best basis, since physicians would be paid some constant rate of indirect costs per unit of time spent caring for Medicare beneficiaries (PPRC 1991). At the time the report was written, however, estimates of physician time were available only for a limited number of services, so the Commission suggested that physician work might be an acceptable basis.

As its research and discussion on this topic progressed, the Commission began to favor a broader allocation basis for indirect costs: namely, the sum of physician work and direct costs. This broader base acknowledges that direct costs, such as medical labor, supplies, and equipment, may lead to higher indirect costs through, for instance, increased space requirements and greater personnel management needs. Therefore, the Commission's estimates of resource-based relative values were based on this broader concept, as described in the 1992 annual report and the research report on practice expenses (PPRC 1992a; PPRC 1992b).

The issue of indirect cost allocation received much attention at the Commission's practice expense conference. Given the accounting framework proposed by the Commission, most participants felt that physician time would be the best basis for allocating indirect costs.³

³ Two of the presentations described alternative ways to allocate indirect costs. Both a lump-sum payment approach and a Ramsey-pricing approach are described in Appendix B.

HCFA representatives reported that physician time data are now available for a much broader array of services than when the Commission first considered this issue, and so could be used to develop relative values for the fee schedule. If these data are complete enough, HCFA can simulate the effect of using time versus other allocation bases as it develops resource-based relative values.

Direct and Indirect Costs. Another important decision in generalizing the resource-based approach is how to define direct and indirect costs. The delineation between the two types of costs has two important implications for developing relative values: it determines what percentage of practice expenses falls into each category, and it defines the types of data necessary to develop direct cost relative values. In its work, the Commission used a very simple split that reflected data available through national surveys and limited the data required from clinics providing direct cost information. In particular, the Commission's definition of direct costs includes medical staff, medical equipment, and medical supplies. Additionally, a small share of a practice's billing costs were assumed to be attributable to each service for which a bill was generated, so a small per-service billing cost was included as a direct cost.

This division of costs could be improved. A simple but important enhancement would be to include a portion of scheduling costs as direct costs, since the provision of an additional service incurs additional scheduling costs. An important issue to consider in creating a per-service scheduling cost is whether such costs vary by setting. It may be that these costs are higher when office staff are involved in scheduling care away from the office, which may require coordination with hospital or other resources.

In addition, the types of costs included by site should be reconsidered. One presentation at the Commission's conference suggested that nonoffice care may incur more costs than are reflected in the Commission's approach. (See the discussion of Pauly in Appendix B.)

Another enhancement could be to identify major space or maintenance requirements of medical equipment and supplies that should be included, along with acquisition costs, as direct costs. The Commission's research included only acquisition costs as direct costs. If, however, acquisition costs and space and maintenance costs are correlated, then the Commission's inclusion of direct costs in the indirect cost allocation basis should generate relative values that reasonably reflect these additional costs. In any case, the types of costs included as direct should be considered when selecting an indirect cost basis.

A final important issue in separating direct and indirect costs is the treatment of medical staff downtime. In the Commission's study, only the time spent directly with patients was measured as a direct cost. Medical staff, however, clearly do not spend their entire day in direct patient care. They also prepare equipment, supplies, and exam rooms; process patient charts and related paperwork; wait for patients and physicians; and perform other duties. By measuring only patient encounter time but including all medical staff salaries in the direct cost pool, the Commission's

approach has implicitly allocated this nonencounter time in proportion to encounter time. Therefore, those services that require the most input by medical staff bear a larger share of medical staff downtime than those that require little or no medical staff resources.

Arguably, this may be the appropriate way to handle downtime costs, because these staff-intensive services command — or benefit most from — the medical staff. If they were not provided, perhaps the practice would need fewer employees. Conversely, others argue that these costs should be treated as indirect: the nonencounter time may be spent in any number of activities that benefit many or all patients. It may be possible to develop estimates of some nonencounter time associated with particular services, such as preparation and follow-up, and include this as a direct cost but treat other nonencounter time as indirect. Such an approach may, however, be quite expensive to implement since it requires measuring tasks that are not as clearly delineated as those related patient encounters. Any possible refinement to the definition of direct costs should be weighed against the increase in data collection costs.

These three examples illustrate important principles to consider when defining direct and indirect costs for the purposes of developing resource-based relative values:

- Direct costs should be scrutinized for possible site-specific differences.
- Assignment of costs as direct or indirect should weigh the increased data burden of direct costs against expected gains in relative values that more accurately reflect resource use.
- The definition of costs as direct or indirect and the allocation basis of indirect costs should be consistent with one another.

Developing a Single Set of Relative Values. A final issue in developing resource-based relative values is choosing a method for combining direct cost data from a variety of practices to create a single set of relative values. Economists argue for using data that reflect efficient resource use. This suggests that it would be possible to collect data only from efficient practices and use, for example, means to determine relative values. It is not possible, however, to identify efficient practices. Further, many observers argue that it may not be appropriate to ignore the wide variety of practice styles that now exists.

As a practical matter, data will be available from a variety of practices and will exhibit some variation in direct costs for any particular service. The issue then becomes one of choosing a point on the cost distribution, such as the mean or median, as the appropriate anchor for developing relative values across services. Since the goal is simply to create relative values, this choice may not be as crucial as if it were necessary to identify cost levels. That is, unless the shape of the distribution of costs differs dramatically across services, the relative values will be fairly similar whether the mean, median, or some quartile is used.

Many analysts have suggested that it may be appropriate to use different points on the distribution for different types of services. For example, median costs may be used in general. For specialized services that require very expensive equipment, the 25th percentile of costs could be used instead. In this way, payment policy could be used to discourage practices from acquiring specialized expensive equipment when they cannot use it in a relatively efficient manner.⁴

MALPRACTICE RELATIVE VALUES BASED ON RISK-OF-SERVICE METHOD

Like the practice expense relative values, the malpractice, or professional liability insurance (PLI), component of the Medicare Fee Schedule is determined by a charge-based formula. Although this component accounts for only about 5 percent of total physician revenues, the Commission has been concerned about the distortions in service-level payments created by the OBRA89 formula. Therefore, it started to investigate alternative payment methods in its *Annual Report to Congress 1990* (PPRC 1990). The rest of this chapter describes the Commission's risk-of-service (ROS) approach and its expected benefits and costs, along with outstanding issues that HCFA can resolve as it develops relative values based on the approach.

Development of the Risk-of-Service Method

In its *Annual Report to Congress 1990*, the Commission described several possible ways to pay physicians for PLI expenses associated with caring for Medicare beneficiaries (PPRC 1990).⁵ In the Commission's view, the ROS approach appears to be the most promising strategy for developing relative values that most accurately reflect service-level PLI costs.

By design, the ROS approach reflects some basic characteristics of the PLI market. Malpractice insurers base premiums on the risk classification of the physician. Risk classes are generally defined by physician specialty and mix of services provided. Many of the same services are furnished by physicians in different risk classes. Evaluation and management services, however, and certain basic diagnostic tests and procedures, in particular, are routinely provided by physicians in a wide variety of specialties. For example, the nation's largest malpractice insurer, St. Paul Companies, Inc., used nine risk classes in 1990; the premiums for risk class 2 physicians were 50 percent higher than for those in class 1, even though both groups provide many of the same services. The difference is due to the additional services physicians in class 2 deliver. Different services are associated with

⁴ An alternative approach would be to use the 75th percentile of service volumes to calculate unit equipment costs for those services that require expensive special equipment.

⁵ The options examined include: lump-sum payment, physician risk class method, risk-of-service approach, and government as insurer.

different levels of exposure to malpractice risk and, therefore, with different PLI premiums, which is the cost for which physicians are to be paid under this component of the fee schedule. A resource-based approach should therefore assign higher PLI relative values to those services that result in higher premiums for physicians. The ROS method does this.

Under the ROS method, relative values are proportional to each service's relative premium, defined as the service's contribution to the physician's malpractice premium. Those services that contribute to higher premiums are distinguished from those that are provided by physicians in a lower risk class (who therefore pay a lower premium). To illustrate, imagine a health care system composed of two physicians. They both provide routine visits to patients but only one performs surgical services. The surgeon pays \$100 in PLI premiums per year, while the generalist pays only \$40. The ROS method would lead to a PLI component of the fee schedule that, assuming all payments are through Medicare, leads to payment of \$40 for a year's worth of visits and \$60 for a year's worth of surgeries. This can be accomplished by anchoring the per-service payment for visits at a rate that, at expected visit volumes, will lead to payment of the correct total premium for the lower risk class and allocating the remaining risk and payment to the non-visit (in this case surgical) services. Although the arithmetic becomes more complicated with more physician risk classes and services, this is a well-defined and solvable problem.⁶

To better understand the mechanics and implications of the ROS method, the Commission conducted a pilot study of the approach. Using the Part B Medicare Annual Data Files (BMAD) and information about St. Paul Companies' risk classes and relative premiums, the approach was simulated for most of the services included in the fee schedule. Because the claims data used for the pilot study did not allow for specialties to be subdivided by groups of services provided, the estimates are based on several simplifying assumptions. For example, it was not possible to distinguish between the service mixes of family physicians who are and are not covered by malpractice insurance for certain surgical procedures. Therefore, each specialty was assigned to one of eight risk classes, even though St. Paul Companies' policies may divide a specialty into three different risk classes.

The Commission's research, which is described in detail in its report, *Payment for Professional Liability Insurance Expense Under the Medicare Fee Schedule*, shows that the ROS approach would significantly change PLI payments relative to OBRA89 levels (PPRC 1992c). Over 80 percent of services would have payments more than 15 percent different from OBRA89 amounts. The impact on total payment levels, however, is much smaller because PLI premiums account for only about 5 percent of total revenues. Therefore, the ROS method would change total payments for 93 percent of studied services by less than 5 percent from OBRA89 levels. The ROS method would redistribute PLI payments across service families and physician specialties (Tables 8-4 and 8-5). For example, the estimates suggest that PLI

⁶ Interested readers are referred to the Commission's separate report on PLI for a more detailed description of the ROS calculations (PPRC 1992c).

payments for radiology services would be 40 percent lower under the ROS compared with OBRA89 payments, while those for technical procedures would be 63 percent higher. Across specialties, radiologists would receive 31 percent less in PLI payments under ROS, while neurosurgeons would receive 71 percent more. These changes in PLI payments by service group and specialty translate to much smaller changes in total payments, typically no more than 1 percent to 2 percent, because PLI payments account for a small share of total payments.

Table 8-4. Ratio of payments under ROS, OBRA89, and CPR, by selected service families^a

Service family	PLI payments			Total payments ^b
	ROS/ CPR	OBRA89/ CPR	ROS/ OBRA89	ROS/ OBRA89
Evaluation and management	0.72	0.93	0.78	0.99
Laboratory	1.34	1.04	1.30	1.01
Diagnostic procedures	1.34	1.15	1.16	1.01
Technical procedures	1.60	0.98	1.63	1.03
Surgical global services	1.14	1.01	1.13	1.01
Radiology	0.73	1.20	0.60	0.98

^aCustomary, prevailing, and reasonable method used before 1992. CPR PLI payments at the service level are calculated from survey data on specialty revenue shares.

^bComparisons of total payments with CPR not shown because differences are dominated by changes in payment for physician work.

Source. Commission simulations using BMAD procedure file.

An important finding in the Commission's research is that, according to the ROS estimates, the OBRA89 formula has caused significant distortions in PLI payments relative to the previous customary, prevailing, and reasonable payment policy (as reflected through physician revenue surveys). Assuming that the ROS method better reflects malpractice costs, comparison with CPR and OBRA89 payments shows that CPR payments mirrored these costs better than OBRA89. Therefore, introduction of the fee schedule has inadvertently moved PLI payments to a system that is even less reflective of resource costs than the previous one. The use of charges multiplied by average specialty PLI revenue shares has led to a set of relative values that pay lower-risk physicians more than the costs they incur while underpaying higher-risk physicians.

The Commission's report on the ROS approach has been widely circulated to interested parties for review and comment. The approach is perceived as a decided improvement over the current method — no one has identified important flaws in it. In fact, there has been very little criticism of the approach as developed in the Commission's pilot study.

One issue several commentators raised was the use of the lowest physician risk class to set values for some services and of the average risk class for others. To some extent, this reflects

Table 8-5. Ratio of payments under ROS, OBRA89, and CPR, by risk class and specialty^a

Risk class and selected specialties	PLI payments			Total payments ^b
	ROS/ CPR	OBRA89/ CPR	ROS/ OBRA89	ROS/ OBRA89
Risk class 1 and 2	1.19	1.31	0.91	0.997
Pulmonary disease	1.26	1.34	0.94	0.998
Risk class 3	0.99	1.12	0.89	0.996
Cardiovascular disease	1.14	1.42	0.81	0.992
Gastroenterology	1.31	1.29	1.01	1.001
General/Family practice	0.95	0.91	1.04	1.001
Internal medicine	1.06	1.23	0.87	0.996
Ophthalmology	0.86	1.02	0.85	0.996
Radiology	0.76	1.10	0.69	0.986
Risk class 4	0.98	0.96	1.02	1.001
Urology	1.00	0.99	1.01	1.000
Risk class 5	0.92	0.81	1.15	1.009
General surgery	0.93	0.81	1.14	1.009
Risk class 6	1.00	0.85	1.18	1.012
Orthopedic surgery	1.10	0.86	1.28	1.019
Thoracic surgery	0.83	0.88	0.95	0.996
Risk class 7 and 8	1.35	0.76	1.77	1.009
Neurological surgery	1.41	0.83	1.71	1.051

^aCustomary, prevailing, and reasonable method used before 1992. CPR PLI payments at the service level are calculated from survey data on specialty revenue shares.

^bComparisons of total payments with CPR not shown because differences are dominated by changes in payment for physician work.

Source. Commission simulations using BMAD procedure file.

the weakness of the data used in the pilot study. With better information on service mix by specialty, it may be preferable to use the average risk level for each service.⁷ This issue can be explored further with better risk and service mix data.

Expected Benefits and Costs of the ROS Approach

The ROS approach would correct important flaws of the fee schedule. First, it would provide a resource-based rationale for the malpractice component. It would lead to a more appropriate distribution of PLI payments unlike OBRA89, which has moved Medicare policy toward

⁷ Analytically, it may appear preferable to use the lowest risk class associated with each service as the best indicator of marginal risk. This can lead, however, to unreasonable values in certain circumstances, such as a high-risk specialty that provides only a few services not also provided by physicians in other specialties.

even more inequitable and inefficient payment for PLI costs than existed under the previous payment system. In addition, it is very flexible; relative values can be recalculated promptly whenever there are important changes in the insurance market and to reflect the effects of changing technology on malpractice risk. Although the impact on total payments is fairly modest, physicians, patients, and the Medicare program will benefit from improving this element of the fee schedule.

A change to the ROS approach raises the same two issues as the resource-based practice expense method described earlier: data development costs and the disruption that would come with a change in payment policy. In this case, however, both of these are minimal and are clearly offset by the benefits.

Outstanding Issues

As mentioned above, the ROS method has been well-received by reviewers and requires minimal data. Several improvements can be made, however, when relative values are developed for payment purposes.

Definition of a Standard Policy. In its work, the Commission has used relative premiums for a standard \$1 million/\$3 million liability limit policy from the largest malpractice insurer. There are, however, a variety of insurance plans available to physicians that are based on different risk classes and have different relative premiums. To develop a single set of relative values that reflect the experience of physicians nationwide, it will be necessary to define a standard policy that would identify risk categories and relative premiums. The definition would help ensure that relative premium values are accurately measured, that PLI values reflect relative costs of insurance coverage, and that physicians understand the nature of the expense that the fee schedule is designed to cover. As with issues described in defining a single set of practice expense relative values above, the goal is to develop relative — not absolute — payment levels, which lessens some of the concerns in developing a standard policy.

A standard policy could be defined through a physician survey or through a survey of malpractice insurers. A physician survey could ask about the nature of physicians' coverage and the typical policy could be modeled from these data. To produce reliable results, such a survey would have to include large numbers of respondents from the major specialties that care for Medicare beneficiaries and from different geographic areas where systematic differences in policies exist. A survey of insurers, on the other hand, may be more manageable and yield more comprehensive data. Relative premiums for a typical policy could be estimated using premium data from insurers, estimates of their market share, and information on the distribution of physicians by specialty within geographic market areas. Through this approach, premium data and corresponding physician classification information from different insurers can be taken into account in defining the standard policy.

Use of Medicare Claims Data in Payment Calculations. Once a standard policy is defined, implementation of the ROS method requires information on the mix of services provided by physicians in each specialty in each physician risk class. As mentioned earlier, the data used in the Commission's pilot study were not detailed enough to subdivide specialties across risk classes, which may lead to some bias in the resulting estimates. Better information on the variation in service mix within physician specialty and across different risk classes is necessary to develop accurate relative values. It may be possible to use HCFA's BMAD-III provider file or the new National Claims History system to determine how service mix varies within a specialty. For example, the BMAD provider file might be used to characterize service mixes of a family physician who does not assist in major surgeries and the higher-risk class family physician who often provides such assistance. Under the ROS method, such information could be used to alter payments of assistant-at-surgery services relative to other services provided by all family physicians to better reflect the higher premium incurred by those in the higher risk class.

Even though these files offer an improvement over the data used by the Commission in its research, they will only reflect service mix as provided to Medicare beneficiaries. Specialties with relatively small Medicare patient volumes may therefore not be well-represented in these data. Given the growing use of the Medicare Fee Schedule by other payers, developing accurate malpractice expense relative values for services infrequently provided to Medicare beneficiaries, for example obstetric and pediatric services, should receive high priority. It may be important to revisit this issue of specialty risk class as defined by service mix with data on a broader set of patients before developing relative values for other payers to use.

Finally, regardless of the claims source used, attention must be paid to specialty designators used in the data. Since the risk class and service profile data are merged by specialty, it is important that well-defined and consistent specialty designations are used in both sources. Newly defined specialties pose a special problem in this regard; inconsistent or infrequent use of new specialty codes may lead to mismatches of risk class and service mix.

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CHAPTER 9

REFINEMENT OF THE MEDICARE FEE SCHEDULE FOR 1993

Medicare payment rates for virtually all services have changed for 1993. These changes stem not only from the transition toward fees based on resource-based relative work values (RWVs), but also from the yearly update in the level of Medicare fees, the operation of the Volume Performance Standard (VPS) system, and the 1992 refinement process for the Medicare Fee Schedule. This chapter analyzes the changes in the fee schedule for 1993. This information can help policymakers and users of the fee schedule begin to assess the extent to which the fee schedule, in its second year of operation, is meeting their expectations and goals.

Before the fee schedule took effect in 1992, projections of the coming changes in payment levels were based solely on estimated effects of the relative value scale itself. Expectations of payment gains and losses were formed from such projections. The effects of the VPS system, inflation in the cost of delivering care, and the specific manner in which the Health Care Financing Administration (HCFA) implemented the fee schedule (such as the level of the initial conversion factor) were not foreseeable. As a result of the way these contingencies have played out, actual payment rates are lower than what many expected — even though relative shifts in payment have occurred much as predicted.

An analysis of the change in payment levels occasioned by the 1993 fee schedule sheds light on the reasons why this has occurred and what can be expected during the remainder of the transition to the fee schedule. The chapter begins by describing the changes in payment rates brought about by the 1993 fee schedule and the role played by each of the factors affecting payment. The analysis confirms that much of the change in payment rates associated with the switch to resource-based payment has already occurred. Services that experienced large price reductions to date will receive much smaller reductions during the rest of the transition to the full fee schedule. Similarly, substantial increases in fees for evaluation and management (EM) services are not projected during the remainder of the phase-in of the fee schedule. The chapter concludes by drawing on the Commission's previous recommendations for refinement of the fee schedule to analyze the specific changes that were made — and not made — for 1993.

CHANGES IN PAYMENT RATES DUE TO THE FEE SCHEDULE FOR 1993

The Commission's simulations indicate that Medicare is paying physicians, on average, 0.5 percent more per service in 1993 than in 1992.¹ The average 1993 Medicare price update of 1.4 percent was not fully passed on to physicians because of the continuing effects of the baseline adjustment HCFA made to the initial conversion factor in 1992. The small net increase in 1993 compares to a change in overall payment rates of -3 percent in 1992.²

Changes in payment levels should not be confused with changes in total payments to physicians. Total payments are determined by the volume and intensity (mix) of services delivered as well as their prices. Because the volume and intensity of services are expected to continue to increase in 1993, the total dollars paid to physicians by Medicare in 1993 will probably exceed the 1992 totals by substantially more than the 0.5 percent increase in the average payment per service. (Chapter 6 contains a discussion of the contrast between payments per physician and payments per service that occurred in 1992.)

The small overall price increase for 1993 comprises slightly larger differences among various types of services (Table 9-1). Evaluation and management services as a group received a 3.4 percent increase in payment per service in 1993. All other services experienced reductions, including diagnostic procedures (-4.4 percent), therapeutic procedures (-0.8 percent), imaging procedures (-2.4 percent), and surgical global services (-0.8 percent).

Because different specialties perform different mixes of services, they, too, fare differently in 1993 (Table 9-2). Average payments per service to primary care physicians increased by more than 3 percent, while those for internists who perform subspecialty procedures experienced comparable average reductions.³ Average payment rates for some surgical specialties rose as much as 1 percent, while for others they fell by 1 percent. Payment rates went down, on average, 1.2 percent for radiologists and 3.5 percent for pathologists. Because individual physicians practice in localities that receive different geographic adjustments in payment and provide a service mix that may differ from the average in their specialty, the size of the changes for some physicians exceeded these national averages.

¹ The simulations use a baseline of actual 1991 allowed charges and service mixes obtained from the 1991 National Claims History summary file. This file contains virtually 100 percent of the Part B claims summarized at the carrier, locality, specialty, procedure, and modifier level. Payment rates for 1992 and 1993 were calculated based on the actual 1992 and 1993 conversion factors and fee schedules combined with the rules for the transition, using adjusted historical payment bases resulting from actual 1991 payments. Adjustments were made for changes in CPT codes. The simulations assume no changes in volume or mix of services, or in rates of participation or acceptance of assignment by physicians. Average payment rates for more than one service are weighted by the volume of each service.

² This figure was produced by Commission simulations and analysis of actual claims.

³ These internists were defined as those physicians who were listed as internists by Medicare but who performed at least one of the procedures in Table 9-2. These procedures would ordinarily be performed only by physicians practicing as specialists in, e.g., cardiology, gastroenterology, nuclear medicine, or nephrology.

Table 9-1. Components of changes in Medicare payment rates, by selected service families and services, 1992-1993
Percent change

Service family, code, and descriptions	Components of change					
	Total change ^a	Update	Transition		Refinement	
			Transition formula	Baseline adjustment	Change in RVUs	Budget neutrality
All services	0.5	1.4	0.0	-0.9	2.8	-2.8
Evaluation and management^b	3.4	0.8	3.2	-0.8	3.0	-2.8
92014 Eye exam, established patient	2.8	0.8	4.2	-0.9	1.5	-2.8
99201-5 Office visit, new patient	5.3	0.8	4.3	-0.9	3.9	-2.8
99211-5 Office visit, established patient	2.5	0.8	2.2	-0.7	3.0	-2.8
99221-3 Initial hospital care	4.6	0.8	4.0	-0.9	3.4	-2.8
99231-3 Subsequent hospital care	1.8	0.8	2.9	-0.7	1.6	-2.8
99241-5 Office consultation	1.2	0.8	1.9	-0.7	2.1	-2.8
99251-5 Initial inpatient consultation	2.1	0.8	1.5	-0.7	3.3	-2.8
99261-3 Follow-up inpatient consultation	-1.2	0.8	4.9	-1.0	-2.9	-2.8
99271-5 Confirmatory consultation	-1.3	0.8	0.2	-0.6	1.1	-2.8
99301-3 Nursing facility care	19.1	0.8	5.3	-1.0	16.1	-2.8
99311-3 Nursing facility care, subsequent	10.7	0.8	4.8	-0.9	8.6	-2.8
Diagnostic tests and procedures	-4.4	0.8	-4.8	-1.0	3.4	-2.8
93224 24-hr electrocardiogram monitor	-1.7	0.8	-1.9	-0.9	3.2	-2.8
93547 Cardiac angiography	-6.7	0.8	-6.2	-1.1	2.6	-2.8
94060 Spirometry +/- bronchodilator	0.3	0.8	0.2	-0.6	2.6	-2.8
95819 Electroencephalogram (EEG)	18.4	0.8	-3.5	-0.9	25.7	-2.8
Therapeutic procedures	-0.8	1.8	-0.8	-1.0	2.0	-2.8
43239 Upper endoscopy, biopsy	-5.1	0.8	-4.1	-1.1	2.1	-2.8
45385 Colonoscopy, polypectomy	-3.5	0.8	-3.7	-1.2	3.4	-2.8
52000 Cystoscopy	0.4	3.1	-0.3	-0.6	1.1	-2.8
92950 Cardiopulmonary resuscitation	7.3	0.8	-0.2	-1.0	0.5	-2.8
92960 Electrical cardioversion	-8.1	0.8	0.8	-0.7	6.1	-2.8
Radiology and imaging	-2.4	0.8	-1.6	-0.8	2.0	-2.8
70470 Contrast CAT scan of head	-0.7	0.8	1.0	-0.4	0.8	-2.8
70551 Magnetic image, brain (MRI)	-0.3	0.8	1.3	-0.8	1.3	-2.8
71010 Chest X-ray, single view	0.4	0.8	2.0	-0.5	1.0	-2.8
76519 Echoexam of eye	-2.2	0.8	0.1	-0.1	0.0	-2.8
93350 Stress echoexam of heart	-7.0	0.8	-15.6	-0.5	12.8	-2.8
Surgical global	-0.8	3.1	-2.4	-1.0	2.4	-2.8
27130 Total hip replacement	0.6	3.1	-0.4	-1.0	1.8	-2.8
33207 Insertion of pacemaker	-2.1	3.1	-3.2	-1.1	2.1	-2.8
34201 Removal of arterial clot	-4.3	3.1	-2.3	-0.9	-1.4	-2.8
44140 Partial removal of colon	4.3	3.1	-0.6	-0.7	5.3	-2.8
49505 Repair inguinal hernia	3.1	3.1	-1.3	-1.2	5.4	-2.8
52601 Transurethral prostatectomy	1.0	3.1	-0.2	-0.8	1.7	-2.8
66984 Remove cataract, insert lens	-1.8	3.1	-3.0	-1.2	2.2	-2.8
67228 Treatment of retinal lesion	9.7	3.1	-3.9	-0.9	14.6	-2.8

^aThe components may not add up to the total because of rounding.

^bEntries for a series of codes reflect weighted averages for those services.

Source. Commission simulations using 1991 National Claims History summary file.

Table 9-2. Components of changes in Medicare payment rates by specialty, 1992-1993

Percent change

Specialty	Components of change					
	Total change ^a	Update	Transition		Refinement	
			Transition formula	Baseline adjustment	Change in RVUs	Budget neutrality
All physicians	0.5	1.4	0.0	-0.9	2.8	-2.8
Medical	1.1	0.9	0.8	-0.9	3.1	-2.8
Cardiology	-3.1	0.9	-3.4	-0.8	3.1	-2.8
Family/general practice	3.7	0.9	3.4	-0.9	3.0	-2.8
Gastroenterology	-1.9	0.9	-1.5	-1.0	2.5	-2.8
Internal medicine	1.4	0.8	1.2	-0.8	3.0	-2.8
Nonprocedurally oriented ^b	3.1	0.8	2.8	-0.7	3.1	-2.8
Procedurally oriented ^b	-2.0	0.8	-1.9	-1.0	2.8	-2.8
Other medical	1.7	0.8	1.2	-0.8	3.3	-2.8
Surgical	0.3	2.4	-0.8	-0.9	2.4	-2.8
General surgery	0.8	2.3	-0.7	-0.9	2.9	-2.8
Ophthalmology	-1.0	2.4	-2.0	-1.0	2.6	-2.8
Orthopedic surgery	0.2	2.4	-0.2	-0.7	1.5	-2.8
Thoracic surgery	-0.9	2.8	-2.6	-1.1	2.9	-2.8
Urology	1.0	2.4	0.3	-0.8	1.9	-2.8
Other surgical	0.5	2.2	-0.3	-0.9	2.3	-2.8
Other	-1.5	0.8	-0.4	-1.0	1.9	-2.8
Radiology	-1.2	0.8	0.2	-1.0	1.6	-2.8
Pathology	-3.5	0.8	-4.5	-0.9	4.0	-2.8
All other physicians	0.8	1.2	0.2	-0.9	3.1	-2.8

^aThe components may not add up to the total because of rounding.

^bInternists who performed at least one heart catheterization, angioplasty, pacemaker insertion, upper gastrointestinal endoscopy, colonoscopy, electroencephalogram, scan of extracranial arteries, bronchoscopy, cardiovascular imaging, thyroid imaging, pulmonary perfusion imaging, dialysis, cystourethroscopy, nerve conduction study, or electromyography were categorized as procedurally oriented internists. Other internists were identified as nonprocedurally oriented internists.

Source. Commission simulations using 1991 National Claims History summary file.

To understand the changes in payment levels for different services and types of physicians, it is necessary to examine separately the different factors affecting changes in payment rates. These include the yearly update in the level of payment for all services, the continuing transition to the Medicare Fee Schedule, and changes to relative work values due to the 1992 refinement process.

The Yearly Medicare Price Update

Each year, Medicare increases the fees it pays for each service to account for increases in the cost of providing care as measured by the Medicare Economic Index (MEI). This is modified

by the extent to which the increase in expenditures two years before was greater or less than the target set for that year by the applicable Volume Performance Standard.⁴ The 1992 update was 1.9 percent, which was applied to all services via the conversion factor.

In 1993, for the first time, different updates were applied for surgical and nonsurgical services. The MEI was 2.7 percent for all services. But the growth in volume of surgical services was calculated to be 0.4 percent less than their VPS target, while nonsurgical services exceeded their target volume growth by 1.9 percent. As a result, surgical services received a 3.1 percent update, whereas the update for all other services was only 0.8 percent. The combined average for all services turned out to be a 1.4 percent increase in payments per service.

The 1993 update in itself caused the increase in payments for surgical services to exceed that for nonsurgical services by 2.3 percentage points. Because surgeons provide nonsurgical services as well, the update was responsible for an average 2.4 percent payment rate increase for surgeons (Table 9-2). Medical specialties received an average update of 0.9 percent. (Although the update for nonsurgical services was 0.8 percent, some medical specialists perform therapeutic procedures that received the surgical update of 3.1 percent.)

The Transition to Full Fee Schedule Values

Nearly two-thirds of services are already being paid at their full fee schedule values. They are not subject to the transition and thus did not experience any changes in payment in 1993 because of the transition. The payment rates for the remaining services moved toward their full fee schedule values as part of the transition culminating in 1996.

Payments for services still in transition are a blend of their historical and fee schedule values. For 1993, the transition formula specified that services subject to the transition move 25 percent of the way toward their final values from their updated 1992 payments. The magnitude of the resulting changes in payment levels differs for each service, depending on how far the 1992 payment level was from the full fee schedule amount (Table 9-1). The sizes of the changes are relatively modest, especially compared with the 15 percent changes these services experienced in 1992. The direction of change generally corresponds to the now-familiar results of resource-based payment: EM services typically increase in value while most of the imaging and invasive services decline. Different specialists experience corresponding changes in payment rates, in the expected directions (Table 9-2).

A second aspect of the transition to the fee schedule is the controversial volume offset assumption used by HCFA to calculate the conversion factor for the fee schedule. For individual physician's practices, HCFA assumed that volume increases would offset half of

⁴ The Congress can legislatively grant an update different from this formula.

the price cuts that occur; no volume change was anticipated when prices increase.⁵ On the basis of this assumption, HCFA reduced the initial conversion factor by 6.5 percent (called the baseline adjustment) to counteract the volume changes expected under the fully implemented fee schedule. Because some 1992 payments were a blend of fee schedule amounts and historical charges — which were not affected by the baseline adjustment — the average reduction for all services turned out to be about 3 percent in 1992.⁶ Services that were paid at their final fee schedule values in 1992 immediately bore the full effect of the baseline adjustment. For services subject to the transition formula, the reduction was cushioned in 1992 by the portion of their payments that reflected historical charges.

For services in transition, the proportion of fee levels determined by the fee schedule grows yearly until it reaches 100 percent in 1996, at which time the full effect of the 6.5 percent baseline adjustment will be felt across all services. The additional reduction in 1993, averaged across all services, is 0.9 percent. This varies slightly by service, depending on the relative proportion of payments for that service that are subject to the transition (Table 9-1). It is apparent that the baseline adjustment results in smaller gains and bigger losses than otherwise would be expected during the transition to the fully implemented fee schedule. For example, in the absence of the baseline adjustment, EM services would have experienced a gain of 3.3 percent from the effect of the transition in 1993, instead of 2.4 percent (Table 9-1).⁷

The 1992 Refinements to the Fee Schedule

For 1993, HCFA changed the relative work values of some 400 services that were thought to have incorrect work values in the 1992 fee schedule (HCFA 1992). Most of the values that were changed were for procedural or surgical services, but work values were raised slightly for many EM services as well. The changes from refinement of relative work values were large for a few individual services, but the net effects on most specialties were small (Table 9-1). Only three specialties experienced payment level changes in excess of 1 percent (Table 9-2).

To prevent the increases in relative work values granted in the refinement process from causing additional governmental expenditures, HCFA reduced the total relative values of all services by approximately 2.8 percent. The more than 6,000 services for which relative work

⁵ See Chapter 6 for evidence on the accuracy of these assumptions.

⁶ The historical payment bases, however, were reduced separately to account for the asymmetry of the design of the transition (PPRC 1992).

⁷ The effect of the baseline adjustment on EM services seems inappropriate, not only because they suffered passively from the expected volume increases in services receiving price reductions, but also because it now appears that an assumption underlying the baseline adjustment — that volume would not decrease for services that gain in payment — was not correct for EM services (Chapter 6).

values were not changed in the refinement process experienced a 2.8 percent decline in their relative values as a result. Work values of services that gained in the refinement process had to rise by more than 5 percent to end up with a net increase in payment rates due to refinement.⁸ When combined with the budget-neutrality adjustment, by design the refinement process resulted in no net change in the overall level of payment.

Implications for Future Changes in Payment Rates

The differences in net changes in payment rates among specialties and types of services in 1993 were quite small. Only three specialties experienced average changes exceeding 2 percent.⁹ Analysis of the Commission's simulations suggests three reasons for this result. First, a large proportion (about 62 percent) of the transition to full fee schedule values had occurred before 1993 (PPRC 1992). The yearly shifts in payment during the rest of the transition are comparatively small. Second, the effects of the transition to the fee schedule were often counteracted by the differential updates for surgical and nonsurgical services. Surgical services tended to lose from the transition but gain from their higher update, and the continuing gains for EM services from resource-based payment were muted by their small update. Finally, the net effect of the refinement process in 1992 was minor for most specialties. These factors are likely to cause yearly changes in payment rates through 1996 similar to the modest changes that occurred in 1993. The sizes of future updates are likely to be the most important determinants of actual payment rates.

Non-EM Services. Diagnostic procedures experienced the largest average reduction in payment rates in 1993 (Table 9-1). Through 1996, the yearly change in payments per service due to the transition to the full fee schedule for these services will be similar to the 5.8 percent reduction that occurred this year. The effect of the transition on therapeutic procedures will continue to be about one-third that of diagnostic procedures.

Payment rates for surgical services were largely protected this year by the surgical update. A higher update for surgical than for nonsurgical services might also occur in 1994 (see Chapter 6).¹⁰ The transition to full fee schedule amounts will continue to cause reductions in surgical service fees of about 3 percent yearly through 1996. The effect on individual surgical specialties varies (Table 9-2). For surgical services, two-thirds of the changes in payments per service occurred by 1992 (PPRC 1992); the remaining reductions from the transition to full relative values are much smaller in magnitude than those that have already occurred.

⁸ This is because the work component only accounts for approximately half the total fee.

⁹ Individual practitioners may experience changes greater than these national averages.

¹⁰ The Commission recommends that only a single update be granted in the future (Chapter 13).

EM Services. The 3.5 percent increase in payment rates for EM services in 1993 barely outpaced the Medicare Economic Index. This result was due to smaller-than-expected effects of the three factors discussed above. The 0.8 percent update for EM services was almost 2 percentage points less than the increase in the MEI. The transition to the full fee schedule contributed little for two reasons. One, of course, is the reduction from the baseline adjustment. The other is that most of the gains due to the resource-based relative value scale were realized by last year. Simulations conducted by the Commission in 1992 showed that 60 percent of the relative gains for EM services had occurred by then (PPRC 1992). Finally, the increases in work values that EM services received in the refinement process just offset the budget-neutrality adjustment needed to account for increases in the work values of non-EM services.

Based on these simulations and current law, large gains in payment rates for EM services do not appear likely in the future. The rest of the transition to the fully phased-in fee schedule will increase net EM payment rates by a total of only 7 percent more by 1996 (not taking into account future updates). This reflects the continued drag of the baseline adjustment on increases toward final relative values. Further refinement of the fee schedule is not planned at this time, and the annual process of incorporating into the fee schedule new and revised procedural codes may cumulatively erode the values of EM services because of the budget-neutrality requirement (see Chapter 10). The sizes of future updates are uncertain, but they are the most important determinant of whether substantial gains in EM payment rates occur.¹¹

Two proposed changes in Medicare payment rules may further reduce payment rates for all services and for EM services in particular. H.R. 21 would restore separate payment for electrocardiogram interpretation and eliminate the new physician payment differential (these provisions are discussed in more detail in the next section of this chapter). HCFA estimates that the electrocardiogram provision would reduce EM payment rates by approximately 2 percent to 3 percent, and the new physician provision would reduce fees for all services by an additional 1 percent.¹²

ANALYSIS OF THE CHANGES MADE IN THE FEE SCHEDULE FOR 1993

HCFA conducted an extensive refinement process in 1992 (HCFA 1992). The relative work values of 791 services were formally reviewed; about 360 values were increased, 35 were decreased, and the rest were left unchanged. Payment policies also were revised. This section describes the major changes that were made (other than changes to specific procedural codes) and their relationship to the Commission's previous recommendations for refinements.

¹¹ The Administration's deficit reduction plan would exempt primary care services from the proposed two percentage point reduction in the 1994 update for all other services (HHS 1993).

¹² The reductions would be larger if HCFA's 50 percent volume offset assumption is applied.

Table 9-3. Selected provisions of the H.R. 11 Conference Report^a

Selected provisions of the H.R. 11 Conference Report (102nd Congress)	Physician Payment Review Commission's related recommendations and comments
<p>Separate payment for interpretation of electrocardiograms (pt. 1, sec. 10101)</p> <p>Repeals the OBRA90 prohibition of separate payments and establishes separate fee schedule payment amounts for interpretation of EKGs in all settings. Removes from visits and consultations the RVUs previously added on to account for bundling of EKGs with visits.</p>	<p>The Commission recommended that the Congress modify OBRA90 so that EKGs are paid for separately from visits at a final resource-based price for both professional and technical components (PPRC 1992).</p>
<p>Payments for new physicians (pt. 1, sec. 10102)</p> <p>As a result of OBRA87 and OBRA90, for the first four years that they treat Medicare patients, new physicians are paid less than their colleagues already in practice. H.R. 11 repeals this reduction.</p>	<p>The Commission recommended that the Congress eliminate differential payment for new physicians and fund this policy change by adjusting the conversion factor (PPRC 1992).</p>
<p>Basing payments for anesthesia services on actual time (pt. 1, sec. 10103)</p> <p>Prohibits HCFA from changing the method of calculating anesthesia time from actual time to average time.</p>	<p>The Commission recommended continuing the policy of paying for anesthesia services on the basis of actual time; and it called for a better operational definition of anesthesia time (PPRC 1991a).</p>
<p>Revisions in the Geographic Price Index for Medicare physicians' services (pt. 1, sec. 10104)</p> <p>The GPCI measures local variations in the costs of medical practice. H.R. 11 would require the Secretary to consult with representatives of physicians in reviewing and revising the GPCI by January 1, 1995. The Secretary is required to submit to the Congress the report on the structure of the index by one year after enactment.</p>	<p>In 1991, the Commission noted that measures used in calculating the GPCI had been criticized. Issues raised included use of apartment rent data as a proxy for office rents and failure to capture urban/rural price variation, particularly in nurses' wages. The Commission's analyses showed that use of residential rent data is reasonable, but alternatives could be considered. These analyses also showed that the pattern of wages was not biased against nonmetropolitan areas (PPRC 1991a). In 1992, the Commission reiterated its call for collection of commercial rent data to be used in the GPCI (PPRC 1992).</p>

^aH.R. 11 was passed by the Congress but vetoed by the President in 1992. The Medicare provisions of H.R. 11 have been reintroduced in the 103rd Congress (H.R. 21).

Table 9-3 continued --

Selected provisions of the H.R. 11 Conference Report (102nd Congress)	Physician Payment Review Commission's related recommendations and comments
<p>Extra-billing limits (pt. 1, sec. 10105)</p> <p>(a) <u>Limitations on beneficiary liability</u> Prohibits nonparticipating physicians from billing or collecting charges in excess of the Medicare limiting charge. Requires that a refund be made in the case of overbilling within 30 days after the date that the carrier notifies a physician of a violation.</p>	<p>The Commission recommended that the Congress amend the Medicare statute to clarify that beneficiaries should not be held liable for charges on unassigned claims that exceed the limiting charge. The Commission also recommended that physicians be required to make refunds for charges that exceed the limit (PPRC 1992).</p>
<p>(b) <u>Prepayment screening of claims</u> Requires carriers to screen all unassigned claims submitted by nonparticipating physicians prior to paying them, to determine whether the amount billed exceeds the limiting charge.</p>	<p>The Commission commented that carriers should be required to monitor compliance by conducting prepayment screening of all unassigned claims to identify potential violations of the limiting charge (PPRC 1992).</p>
<p>(c) <u>Information regarding limiting charges</u> Requires carriers to include on the Explanation of Medicare Benefits (EOMB) form information about the charge limitation and the beneficiary's right to a refund.</p>	<p>The Commission supported inclusion of the charge limit on the EOMB form in 1993. In addition, the Commission recommended that HCFA and its carriers be instructed to disseminate information about the limiting-charge policy to beneficiaries and physicians through a variety of channels. The limiting charge should be clearly explained in the <i>Medicare Handbook</i>; this publication or comparable information on program changes should be distributed to all Medicare beneficiaries. Congress should provide adequate funding for this educational effort (PPRC 1992).</p>
<p>Clarifying payments for medically directed certified registered nurse anesthetists (pt. 4, sec. 10141)</p> <p>Specifies that the conversion factor used to determine payments to medically-directed CRNAs would be frozen at \$10.75, for 1993 and subsequent years.</p>	<p>The Commission recommended that payment to the anesthesia care team should not exceed payment to the solo anesthesiologist for the same service. It noted that this recommendation was contingent upon revision of the OBRA90 conversion factor for nonmedically directed CRNAs (PPRC 1991a).</p>

Table 9-3 continued --

Selected provisions of the H.R. 11 Conference Report (102nd Congress)	Physician Payment Review Commission's related recommendations and comments
<p>Relative values for pediatric services (pt. 1, sec. 10106)</p> <p>The Secretary would be required to conduct a study to determine whether there are significant variations in the resources required to provide similar services to different populations. The Secretary would also be required to develop values for the full range of pediatric services.</p>	<p>The Commission noted that some Medicare relative work values would need to be modified when applied to services delivered to children. Many believe that certain services provided to pediatric patients, as compared to adults, require different levels of work (PPRC 1992).</p>
<p>Overvalued procedures (pt. 1, sec. 10109)</p> <p>Under OBRA90, all unsurveyed overvalued services were subject to a 6.5 percent reduction unless specifically exempted. Some services were erroneously exempted from this cut. To correct this error, the following procedures would no longer be exempted: lobectomy, enterectomy, colectomy, cholecystectomy, and sacral laminectomy.</p>	<p>The Commission noted that analysis by Commission staff of Phase I of the resource-based relative value scale study showed that 94 percent of services other than evaluation and management (EM) services were overvalued to some extent. The Commission recommended that a uniform percentage reduction be applied to all physician services except for EM services and services identified in OBRA89 as overvalued (PPRC 1990).</p>
<p>Statewide localities (pt. 1, sec. 10109)</p> <p>OBRA90 required the Secretary to treat the states of Nebraska and Oklahoma as statewide payment localities if they met certain requirements. Each member of the congressional delegation from those states and organizations representing urban and rural physicians had to agree to the statewide locality provision. H.R. 11 eliminates the OBRA90 requirements for agreement from members of Congress and stipulates instead that Nebraska and Oklahoma were statewide localities in 1991.</p>	<p>The Commission stated in 1991 that the current Medicare localities are not the best basis for geographic adjustment of the fee schedule. It proposed a policy under which most localities would be statewide, including Nebraska and Oklahoma. A few states with high intrastate price variation would need multiple localities based on standard metropolitan statistical area population categories (PPRC 1991a). In 1992, the Commission urged HCFA to conduct the analysis needed to make systematic changes in payment areas (PPRC 1992).</p>

HCFA was unable to make improvements in the fee schedule that require legislative action. H.R. 11 (passed by Congress in 1992 but vetoed by the President) reflected many of the legislative changes recommended by the Commission (Table 9-3). These provisions have been reintroduced in the Congress this year in H.R. 21.

HCFA has indicated that the formal refinement process is now over. Further progress in improving the scale of relative work might best be facilitated by development of a fair and consistent process for reviewing relative work values in the future. The Commission discusses requirements for such a process in Chapter 10.

Evaluation and Management Services

Achieving equitable payment for EM services is particularly important and difficult. Relatively few codes and values are used to pay for a wide variety of EM services delivered by physicians of nearly all specialties. This makes the coding system for EM services (which determines the ability of physicians to bill for their services reliably and equitably) and the values assigned to the codes (which determine the relative payments for EM services) particularly important. The pattern of relative values for EM services affects both payment for primary care services and incentives to deliver care efficiently and to sicker patients.

HCFA reviewed all EM services in its 1992 refinement process and increased many of their relative values. The agency raised the relative values of a few visit and consultation codes (notably critical care and nursing facility codes) that were thought to be substantially undervalued. In addition, the number of relative value units per unit of encounter time, or intensity of work, was made the same within each class of visit or consultation (an example of a class of visit is established patient office visits). This was done by raising the relative work values of some levels of service within a class so that all levels had the same work per unit of time. In practice, this meant that work values for some longer, more complex visits were increased slightly.

When HCFA reduced relative values across the board to achieve budget neutrality for the increases in relative values granted for some codes, it reduced each code's total relative value rather than just the work component. This choice benefited EM services because the practice expense and malpractice components are relatively larger for non-EM services. Non-EM services thus absorbed a greater share of the budget-neutrality adjustment than they would have if the adjustment had been made on the work component alone.

HCFA's actions protected most EM services from being passively reduced in value by the many increases in relative work values granted to non-EM services. However, the changes left unresolved some of the problems in payment for EM services that the Commission identified last year (PPRC 1992).

Intensity of Work for EM Services. The pattern of work intensities (work per unit of time) within each class of service does not correspond to what the Commission recommends (PPRC 1991c; PPRC 1992). In the coding system used for EM services, within each class of visits and consultations there are different levels of service, each with a different content and typical time. For 1993, HCFA raised the relative values of some EM services slightly so that the intraservice work intensities of different levels of the same class of visit or consultation were identical. By contrast, the Commission recommends that the intensity of visits or consultations within a class should decline slightly as time and content increase. The results of research on visits and consultations, and the deliberations of panels of physicians convened by the Commission, indicate that this pattern would best result in equitable resource-based payment and would promote efficiency in delivering care (PPRC 1991a).

Combining this pattern of intensities with a special needs modifier (described below) would help ensure that physicians are paid fairly for treating patients for whom more time is required to deliver the same service content.

The relationship of work intensities among classes of visits and consultations in the 1992 Medicare Fee Schedule also does not reflect the patterns that should exist (PPRC 1992). Research and panels of physicians indicate that the intensity of work is greater for a new patient than for one previously seen (PPRC 1991; PPRC 1992). The work per unit of time should then be greater for new patient office visits than for established patient office visits, for initial hospital care than for subsequent hospital care, and for initial inpatient consultations than for follow-up consultations. Another finding is that consultative visits require more work per unit of time than nonconsultative visits.

Instead, the average intensities for most classes of visits and consultations are virtually identical in the fee schedule (Table 9-4). For 1993, HCFA increased the intensity of nursing facility visits and decreased the average intensity of inpatient follow-up consultations. The resulting pattern is one of even more uniformity of intensities among classes of visits, except for inpatient initial consultations (lower) and nursing facility comprehensive assessment (higher). The fee schedule still does not reflect the meaningful differences in intensity among visits.

Critical Care Visits. Critical care codes seemed undervalued in the 1992 fee schedule, in part because payment for some procedures was bundled together with payment for critical care EM services. There was also uncertainty about which procedures were included in the payment and when it was appropriate to use the critical care codes. The Physicians' Current Procedural Terminology (CPT) manual now specifies 13 procedures that are included in the critical care service definitions — and thus in the fee schedule payments (AMA 1992). HCFA increased by 51 percent the relative values of two critical care codes. Because the frequency with which the 13 bundled procedures are expected to be performed is not stated, the EM work intensity that is embodied in the critical care codes cannot be calculated. The Commission in 1992 recommended that payment for procedures not be bundled with payment for critical care codes, because it is difficult to establish accurate work values when an uncertain number of procedures are bundled with the visits. However, the increase in relative values and the specification of bundled procedures clearly improve payment for critical care services compared to 1992.

Nursing Facility Visits. Nursing facility visits appeared to be undervalued in the 1992 fee schedule. The relative values for the six codes were boosted between 10 percent and 55 percent for 1993. Unlike all other classes of visits, the intensities of comprehensive nursing facility assessments increase with higher levels of service. This is an artifact of the total relative work values that were assigned in the refinement process.¹³

¹³ The total work for these visits was established in the refinement process. No effort was made to make their intensities constant.

Coding for Visits and Consultations. The Commission has previously expressed concern about potential problems with the new coding system for EM services. Its complexity — with different numbers of levels of service for each class of visit or consultation, and different time and content descriptors for similar levels of service across classes — could lead to confusion and inconsistent use of the codes by different physicians. Lack of congruence between the time and content descriptors for individual codes, if present, could also lead physicians to choose different codes for similar services.

Table 9-4. Comparison of Medicare Fee Schedule average work intensities of classes of visits and consultations in 1992 and 1993
Relative value units per minute^a

Site, codes, and class of visit/consultation		1992	1993
Office			
99201-5	New patient visits	0.037	0.039
99211-5	Established patient visits	0.038	0.038
99241-5	Consultations	0.038	0.038
Hospital			
99221-3	Initial care	0.036	0.037
99231-3	Subsequent care	0.036	0.036
99251-5	Initial consultations	0.028	0.029
99261-3	Follow-up consultations	0.047	0.037
Nursing facility			
99301-3	Comprehensive assessments	0.030	0.042
99311-3	Subsequent care	0.036	0.036

^aTypical encounter or floor time

Source. Commission analysis of the Medicare Fee Schedules' relative work values and codes in 1992 and 1993.

In the Commission's survey of 1,000 physicians, three-fourths reported problems with the new codes after they had used them for several months (see Chapter 6). One-third of physicians thought that the new codes did not accurately describe their EM services, and another half said the codes only somewhat accurately described their services. For 29 percent, the complexity of the system was an important problem. Specific problems included difficulty in finding a code that described the service provided (24 percent), discrepancies between the time and content descriptors of a code (11 percent), and trouble choosing among two or more codes that seemed to describe the service provided (9 percent).

At this stage, it is not clear to what extent these problems are due to structural problems with the new codes versus lack of familiarity and experience with them. HCFA and professional organizations should continue to educate physicians about the correct use of EM codes.

HCFA should continue to monitor the use of the codes by physicians and ensure that needed revisions are made so that visits and consultations are billed accurately and consistently.

Definition of New Patient for Group Practices. For 1993, HCFA changed the definition of a new patient for EM services provided by a group of physicians. Formerly, none of the physicians in a group could bill under the new patient codes for an initial visit if any physician in the group had seen the patient within the previous three years. Now a patient is considered new on a first visit to a physician, unless the patient had been seen previously by a physician of the same specialty in the group in the preceding three years.

Invasive Services

The refinements in work values of invasive services are likely to have mitigated some of the problems believed to exist in the 1992 fee schedule by physicians and their professional organizations. Without an objective standard for judgment it is unclear how many problematic values remain among the codes reviewed in 1992, as well as among those not considered in the refinement process. The code-by-code approach used may not have adequately addressed alleged systematic problems including undermeasurement of pre- and postincisional work and compression of the overall scale (i.e., relative values at the low end of the scale being too high and those at the high end being too low). The process did not identify many overvalued services. Some groups of services originally may have been placed too high or too low on the scale. The need for additional refinement depends partly on the assessment of these issues by the involved specialties. Such refinement could occur as part of the periodic review of the fee schedule that must be done at least every five years. Attention must be paid, however, to how systematic problems could be addressed in such a process.

Payment policies also are important determinants of payment for invasive services. Equitable payment requires that physicians understand the payment policies affecting invasive services, such as knowing the global fee period for each procedure they perform, which services are included in the global fee, and which services can be billed for separately. This condition was not fully met in 1992. In the Commission's survey of physicians, only a bare majority of surgeons and proceduralists had an adequate understanding of which services are included in procedural or surgical billing codes (see Chapter 6).¹⁴ During 1992, HCFA sent clarifications to Medicare carriers on a number of payment policies. In 1993, HCFA, carriers, and professional organizations must make vigorous efforts to ensure that physicians understand these policies.

Services Included in Global Fees. HCFA reviewed approximately 50 codes for which the global fee period was thought to be too long for either the nature of the procedure or the RWVs assigned. When patients would typically be followed after a procedure for reasons

¹⁴ Proceduralists are defined on the basis of their relative billings from procedures. They include cardiologists, gastroenterologists, and radiation oncologists.

unrelated to the procedure, the global period for the procedure was reduced from 90 days to 10 or from 10 days to none (RWVs were correspondingly adjusted downward). When the RWVs for follow-up care within the global fee period were not included in the relative value for a procedure, the global period was reduced to match the RWVs assigned. The global fee periods for 37 codes were reduced for these reasons.

Currently, reoperations for complications occurring within the global fee period of an operation are billable separately (i.e., not included in the global surgical fee). The Commission in 1992 recommended that this policy be extended to all procedural services for complications whether or not reoperation is necessary (PPRC 1992). The policy was not changed for 1993. HCFA issued instructions to Medicare carriers in 1992 to clarify other aspects of payment policies, including the splitting of postoperative care among physicians, visits by a surgeon not providing postoperative care, and postoperative care by a physician other than the operating surgeon.

Trauma Surgery. Providing equitable payment for care for trauma patients while discouraging inefficient and duplicative care is challenging. Trauma care typically requires multiple operations — often by different surgeons — and extensive involvement of a team of physicians in the stabilization and management of the patient. Global fees and reductions in payment for multiple operations are often inappropriate in such circumstances, but paying separately for each service provided by each physician creates incentives for inefficiency and double payment. For 1993, HCFA did not change its payment policies for trauma surgery. The Commission continues to believe that payment for trauma surgery should be improved. HCFA should continue to work with involved specialty societies to develop policies that would make payment for trauma care more equitable, while preserving as much as possible the incentives for efficiency created by global fees.

Modifying Payment for Patient Characteristics

More work can be required to care for patients who are severely ill or disabled. Physicians and others have expressed concern that payment under the resource-based Medicare Fee Schedule does not adequately reflect such factors. This may cause payment inequities for physicians and create an undesirable incentive not to care for the most complex and needy patients.

Payment that reflects the work of a service for the average patient is fair if each physician treats similar proportions of patients that differ from the average. However, individual physicians may be under- or overpaid if their patients differ systematically from those of other physicians in ways that affect work. For example, the work required to perform a total abdominal hysterectomy may vary substantially depending on whether the patient has cancer. If they use the same billing codes as other physicians performing hysterectomies, gynecological oncologists may be routinely underpaid for the work they perform. Similarly, if it takes longer to provide the same level of office visit to patients with functional or

communication impairments, physicians who regularly provide primary care services to patients with disabilities in a rehabilitation clinic may be inequitably paid.

Under the fee schedule, payment can vary in a number of ways to account for patient characteristics that affect work. Sicker, more complex patients require more frequent medical attention and generally receive more visits from physicians. Each visit is billable separately (except under surgical global fees), so total payments exceed those for treating less ill patients. Consultations and concurrent care are mechanisms that also result in increased payment for caring for patients whose conditions require more work to manage. Sometimes, different procedures are done because of patient factors. For example, open prostatectomy instead of transurethral resection of the prostate is sometimes done for sicker patients. There are separate codes for the two procedures that reflect the work of each. Payment policies, such as global fees or multiple operation reductions, can be revised to improve the extent to which patient factors are taken into account in payment. Sicker patients often experience more complications, for instance. Procedures needed to treat complications after an operation could be excluded from the global surgical fee and paid for separately.

When patient characteristics cause an individual service to require more work than usual, the coding system may permit billing under a separate code that more accurately reflects the work performed. Repeat operations, for example, can be more work because the first procedure alters the normal anatomy and causes scars. Repeat coronary bypass graft operations can now be billed under a unique code, the value of which reflects the increased work usually required by the reoperation. The coding system can also reflect when the underlying disease affects the work of a procedure. For example, there are several distinct codes for thoracotomy (surgical opening of the chest) based on the reason for the operation (CPT codes 32095 through 32160). Modifiers, such as those for the use of microsurgical techniques, can also help to better approximate payment to work (modifiers are a shorthand way of establishing separate codes for the range of services to which they apply). The fee schedule also allows service codes to be modified for unusual circumstances and service, but this requires supplementary documentation often viewed as burdensome.¹⁵

These mechanisms provide ways for payment under the current fee schedule to reflect differences in work related to patient characteristics. But many organizations testifying before the Commission this year, as well as advisory panels convened by the Commission in the past, believe that even after procedure codes and payment policies are revised where needed to reflect physician work more accurately, there may still be a need to adjust for patient factors (Nickelson 1992; Waller 1992; Ebert 1992; Riddick 1992; Nelson 1992; Ball 1992).

¹⁵ Special reports are required to document pertinent information including an adequate definition or description of the nature, extent, and need for the procedure; and the time, effort and equipment necessary to provide the service. Reports may also include specific clinical information describing the patient's condition (AMA 1992).

Modifiers or adjusters for patient factors must be carefully constructed or they will not help improve the overall accuracy of resource-based payment. Several criteria must be met to ensure that an adjuster or modifier for patient factors is valid, reliable, and administratively feasible.

- The adjustment should be correlated with differences in physician work.
- The effect of the adjustment on physician work should be substantial. For a modifier, the effect on work should also be consistent across all applicable services, so that payments could vary by a constant amount or percentage.
- The adjustment should be clinically meaningful to physicians and intuitively related to work.
- The adjustment should be based on objective indices that are verifiable and not vulnerable to gaming.
- The data on which the adjustment is based should be relatively easy and inexpensive to obtain.

The Commission has previously endorsed adjustments to the fee schedule that would increase payment for patient factors that are likely to affect physician work for a broad range of services: a Medicare adjuster and a visit code modifier for patients with special needs due to disabilities or communication barriers (PPRC 1991a; PPRC 1991c).

Adjustments for Medicare and Pediatric Patients. The Commission has recommended that a Medicare adjuster be developed and applied to services in which: (1) the typical patient is not a Medicare patient, and (2) substantially more work is required to provide the service to a Medicare patient than to a typical patient (PPRC 1991c). It would be necessary to calibrate the adjuster for each procedure to which it applies. Because it is based solely on eligibility for Medicare, it would be a simple, objective, and verifiable indicator that could not be manipulated. It would not add complexity to the fee schedule or require physicians to do anything different in billing; it would merely change the relative values used by Medicare compared to those used by other payers.

In the original resource-based relative value studies by William Hsiao and his colleagues (1988), each relative work value was intended to reflect the amount of work involved in providing the service to the typical patient who might receive it in the general population. Relatively few of the vignettes specifically included elderly or disabled patients. Consequently, relative work values may have been underestimated when more physician work is required to treat Medicare patients. In the 1992 refinement process, this problem was not remedied because, although age was no longer specified in examples, the refinement panels were instructed to consider the relative value of work required for an average patient (Patashnik 1993). For many procedures this would not be a Medicare patient.

On the basis of similar reasoning, the Commission also recommends that a pediatric adjuster or modifier be developed for services where either the physiological or behavioral differences between children and adults affect the work of a procedure.

It should be noted that age per se is not the reason for these adjustments. Rather, for some services, age is a useful proxy for other factors that affect work. For example, small body size can affect work, and pediatric age is correlated with size. More severe illnesses, multiple interacting diseases, and lack of physiological reserve are more prevalent in Medicare patients than in younger ones.

Special-Needs Modifier. Patients who have communication barriers or disabling cognitive or physical impairments are likely to require more time during a physician visit. Existing visit codes do not adequately recognize the additional work required. Physicians can justify higher codes when considerable time has been spent counseling or coordinating care, but the additional work associated with these special needs are not always spent in these activities.¹⁶ On the basis of deliberations of a physician panel convened by the Commission and results from the Commission's Visit Survey, the Commission recommended that a special-needs modifier be developed for use with such patients (PPRC 1991a, PPRC 1991c). The modifier would help ensure that physicians who care for functionally impaired patients will be paid fairly for the additional work they require. The consensus panel drafted specific definitions of special patient needs and characteristics in terms of communication barriers and cognitive and physical impairment. These definitions (adopted by the Commission) are clinically meaningful, apply to all visit codes, and are based on objective criteria that are easy to document and verify (PPRC 1991b).

Severity-of-Illness Modifier. The Commission has previously discussed the possibility of a severity modifier to adjust payment for those services where severity of illness substantially affects work (PPRC 1992). There are numerous ways (described above) in which the fee schedule can account for severity of illness short of adoption of a special modifier. The current coding system has not yet been modified to accommodate severity and other needs of resource-based payment. Payment policies and codes should first be changed to calibrate payment better with severity of illness where needed. The residual need for a severity modifier should then be reassessed.

Developing a severity-of-illness measure that would meet the criteria set out above would be difficult. Illness severity and physician work for services may not be directly or consistently related. Generic indicators of severity can be used for patients with many illnesses, but they are not likely to be consistently related to work across a broad range of procedures. Patient characteristics that complicate one procedure may have no effect on the amount of physician work required for other procedures. Procedure-specific adjustments in payment could be

¹⁶ When more than 50 percent of encounter time is devoted to counseling and coordination of care, time is considered the key factor in determining the level of service for the visit.

accomplished with coding or payment policy changes. Finally, it may be difficult to develop an adjuster that is clinically meaningful and simple, yet resistant to manipulation.

The difficulties of constructing a useful severity modifier are illustrated by existing measures of severity of illness. They were designed to predict either patient outcomes (usually mortality), hospital costs, or ambulatory care resource use. It is unlikely that they are consistently and substantially related to physician work for a specific service. Some of the simpler measures are based on subjective ratings, making them difficult to verify and vulnerable to manipulation. For example, the American Society of Anesthesiologists' (ASA) physical status scale, although widely accepted as a measure of surgical risk, is considered by HCFA to be easily manipulatable and therefore not suitable for payment purposes.¹⁷ By contrast, other severity-of-illness systems for inpatients are more objective and resistant to manipulation, but they involve complex methods. Inpatient severity-of-illness systems define severity in terms of risk of death, organ failure, or impairment.¹⁸ They rely on diagnoses and physiological data documented in the medical record or hospital discharge abstract. However, the algorithms used to calculate illness severity are sufficiently complex to require computer software packages. The complexity of some of the measures can weaken their clinical meaningfulness to physicians. The data generation requirements can be burdensome for hospitals as well as for physicians. The biggest obstacle to their use, however, is that the relationship between physician work and patient severity, as measured by the existing systems, has not been established.

Application of the Fee Schedule Beyond Medicare

The fee schedule is increasingly being used by private insurers, Medicaid programs, and others (see Chapter 7). The Commission believes that the relative value scale should be applicable to broad populations to facilitate its adoption by non-Medicare users. This can be accomplished by calibrating the relative work values for all services to the average work required to provide the service to the general adult population. The basic relative value scale can then be tailored for special populations. For example, the Medicare program would use a Medicare adjuster for services for which the average work required to care for Medicare patients is substantially greater than the average for the general population. A pediatric adjuster or modifier could perform the same function for children.

¹⁷ Recognizing HCFA's concern that the measure is subjective and easily manipulated, the ASA proposed a revision in 1988 that included objective criteria, i.e., generic history and physical findings used to rate all anesthesia patients regardless of the principal diagnosis. However, HCFA was not convinced that it should be adopted for payment purposes.

¹⁸ Examples of hospital severity systems are APACHE III, the Computerized Severity Index, Disease Staging, MedisGroups, and Patient Management Categories. Alternative proposals for classification of comorbidities within the diagnosis-related groups (DRG) system have been developed: the Yale DRG refinement and the New York State all-patient refined DRGs.

Some revisions are necessary for the fee schedule to provide a basis for equitable payment for services to the general population. For example, many thought the obstetrical services were undervalued by the fee schedule in 1992. For 1993, HCFA substantially increased the RWVs for three of the four delivery codes. HCFA also increased the practice expense and malpractice expense relative values for all four delivery codes by imputing them from the RWVs. Some preventive services are not covered by Medicare. These services need to be assigned relative values for use by payers that provide coverage for them.

Pediatric services need further attention. Children's differences from adults in size, physiology, and cognitive and emotional functioning can affect the work of particular services. H.R. 11 would have required the Secretary of Health and Human Services to develop resource-based values for pediatric services (Table 9-3). This requirement has been reintroduced in the Congress this year as part of H.R. 21. Medicaid has suggested resource-based values for some pediatric services, but a formal process will likely be necessary to establish values in a rigorous fashion. HCFA should be responsible for making all of these changes, using a process that includes input from non-Medicare users of the fee schedule.

Electrocardiogram Interpretation and New Physician Payment

Two payment rules required by legislation depart from the principle of resource-based payment. One is the prohibition of separate payment for interpretation of electrocardiograms. Electrocardiogram interpretation has long been a billable service, but the Omnibus Budget Reconciliation Act of 1990 prohibited separate payment for it. In response, HCFA bundled payment for electrocardiograms with payment for visits. This does not adequately direct payment to the physicians who are providing the service. The second undesirable payment rule is the reduction in payments to physicians during the first four years they treat Medicare patients. Currently, payments are reduced by 20 percent during the first year a physician treats Medicare patients, 15 percent during the second year, 10 percent during the third year, and 5 percent during the fourth year.

Neither of these rules is justified under resource-based payment, and the Commission has recommended that they be repealed. As noted earlier, provisions to effect this were included in H.R. 11 last year and have been reintroduced this year in H.R. 21 (Table 9-3). HCFA estimates that restoring full payment to new physicians will require a reduction in the conversion factor of approximately 1 percent, and paying separately for electrocardiogram interpretation will reduce visit payments by 2 percent to 3 percent.

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MAINTAINING ACCURATE RELATIVE WORK VALUES

The Medicare Fee Schedule cannot realize its goals unless most physicians find the scale of relative work credible. Relative work values (RWVs) are the component of the fee schedule most salient to physicians. They account, on average, for half of the total relative value of each service a physician delivers. More important, RWVs convey to physicians an external appraisal of the relative work and, in a real sense, the value of their services. Because physicians view their work subjectively, it is difficult for them to agree on work values. There is no gold standard for judging whether work values are “correct,” so the processes by which they are established and reviewed are central to their credibility and acceptance. This chapter focuses on ways to improve and maintain the accuracy of the scale of relative work in the short run and over time.

Two recurring activities will require establishing new RWVs or reviewing existing ones in the future. One is the yearly publication of new and revised codes by the Current Procedural Terminology (CPT) Editorial Panel. The fee schedule for 1993, for example, contains approximately 250 new or revised codes. Work values had to be assigned to each of them for payment. This chapter uses the term “update for new codes” to refer to the process by which RWVs are assigned to the new and revised CPT codes each year.

Second, RWVs for existing codes must be reviewed periodically to ensure that they still accurately reflect physicians’ work. The RWV for a particular service, for instance, may need to be recalibrated because its physical or mental components and the types of patients for whom it is performed may change over time. Physicians’ perceptions of the amount of work represented by the same service may also evolve. The Omnibus Budget Reconciliation Act of 1989 (OBRA89) requires recalibration of the entire relative value scale at least every five years. This chapter refers to this process as “periodic review.”

Updating for new codes and periodically reviewing existing ones can be performed simultaneously or through different processes. In 1992, the Health Care Financing Administration (HCFA) began a process to update the fee schedule for new codes. But it has not yet formulated a process for periodic review. HCFA must decide when periodic review should start, what process to use, and whether to review services all at once or in a rolling fashion over several years.

RECOMMENDATIONS

HCFA should continue to develop small-group processes to update the fee schedule for new codes and to conduct the periodic review of the entire fee

schedule. The processes should be developed with public input, and clear guidelines and decision rules should be specified in advance. The processes should include:

- **mechanisms to promote consistent decisionmaking,**
- **fair methods and representation of involved parties,**
- **means to identify overvalued as well as undervalued services,**
- **ways to ensure public accountability, and**
- **feedback to the CPT Editorial Panel when codes need revision to achieve accurate resource-based payment.**

HCFA should conduct periodic review of the fee schedule with a process that is not biased toward increasing relative values. Until then, the Congress should provide HCFA with explicit legislative authority to insulate evaluation and management services from budget-neutral adjustments for increases in relative work values of non-EM services, if this is necessary to maintain the accuracy of resource-based payment for EM services.

Future changes in relative work values should be directed toward calibrating them as closely as possible to the work required to perform a service. The integrity of the relative value scale in reflecting purely resource costs should be maintained; other policy goals should be effected through mechanisms other than manipulation of the relative values themselves.

Processes for updates of new codes and periodic reviews that meet the criteria set out above would help foster the credibility and acceptance of the relative value scale (RVS). Means need to be developed to eliminate any bias to increase relative values; otherwise, correctly valued services — including evaluation and management (EM) services — will passively lose ground over time. Accountability is necessary to ensure that the processes meet the needs of the public. All users of the relative value scale should have input into these processes. At a minimum, this should include public participation in the formulation of processes, guidelines, and decision rules to be followed, as well as permit all interested parties to monitor whether the processes and rules are being followed and are meeting their needs.

The Commission wishes to stress that the goal of updating for new codes and conducting periodic reviews is to establish work values that reflect as closely as possible the actual work involved in performing a service. If this goal is achieved, the relative value scale will create a level playing field for decisions about which services to provide to a patient. The RVS will also be adaptable for a wider variety of purposes by its non-Medicare users. Some have

suggested that other factors — unrelated to work — should play a role in determining relative values. In their view, relative values should be adjusted to help meet such needs as increasing the effectiveness, appropriateness, or cost-effectiveness of care; supporting teaching, research, and uncompensated care; and altering the specialty mix of physicians. The Commission believes, however, that these needs should be met in other ways, not by shifting the RVS away from its resource basis. For example, ineffective services can be excluded from coverage, bundling of services for payment can help discourage the delivery of inappropriate services, and bonuses can increase payment for primary care services in areas with too few primary care physicians. At this early stage, there is insufficient justification for abandoning the resource basis of the relative value scale.

This chapter begins by describing the processes used to date for refining and updating relative work values. As HCFA has devised methods to set RWVs, it has laid a promising foundation for the development of processes for periodic review and for updating new codes. The lessons learned are used to help formulate the Commission's recommendations about how these processes should be conducted in the future.

LESSONS FROM EXPERIENCES TO DATE IN SETTING RELATIVE WORK VALUES

Different methods have been used to establish RWVs, from the three phases of the resource-based relative value study conducted by William Hsiao and his colleagues at Harvard University through HCFA's updating of the fee schedule for 1993. An evaluation of these methods can guide the design of processes to be used for future yearly updates for new codes and periodic reviews.

The Establishment of Initial Relative Work Values for the Fee Schedule

By the time HCFA published the initial RWVs for the fee schedule in the November 25, 1991 issue of the *Federal Register*, the agency had received RWVs for about 4,300 services from Hsiao. These values were established by methodologies that evolved over the three phases of the Hsiao study. The remaining RWVs were established by carrier medical directors using a modified Delphi process. The carrier medical directors also considered public comments on 1,000 RWVs that HCFA had proposed in June 1991, and they reviewed for face validity the additional RWVs supplied by Hsiao.

HCFA gave the carrier medical directors a set of reference procedures that are commonly performed and for which RWVs had not been questioned or criticized. The medical directors used this reference set of services to assess Hsiao's RWVs and the public's comments on the 1,000 RWVs HCFA had proposed. They also used the reference set to help assign total work values to codes for which Hsiao did not supply RWVs. In addition, they were given the results of privately financed, specialty-specific studies of relative work. Initially, the medical

directors each independently assigned values to the codes and returned them by mail (they were permitted to consult specialists for assistance). Panels of medical directors then met to review the mail survey results and assign final values. This process corrected some problems of face validity in the Hsiao-supplied values, and initial values were assigned to all codes. These values, which were published in the final rule on November 25, 1991, were used for fee schedule payments in 1992 (HCFA 1991).

One strength of this process was the use of small-group discussions to arrive at RWVs. Values were assigned based on survey results and comparisons to a reference set of services. Some expressed concern that carrier medical directors alone did not possess the full range of expertise needed to value all services accurately. Nevertheless, HCFA had established the beginnings of a sound process that could be improved over time.

The 1992 Refinement Process

After the RWVs for the fee schedule were published in the *Federal Register* in November 1991, HCFA accepted public comments on them until March 24, 1992 (HCFA 1992). HCFA asked commenters to compare specific components of the services they were questioning to approximately 200 proposed reference services. This set of reference services included at least three commonly performed services from each specialty that together spanned the entire spectrum of work. Commenters were also asked to suggest additions and deletions to the set of reference services. For surgical services, HCFA asked commenters to discuss detailed components of work, including the average and range of preoperative and postoperative visits, operative time, and level of difficulty of the operation. HCFA encouraged commenters to provide objective data on these items from operating-room logs, operative reports, and medical records. The agency received some 7,500 comments on 1,000 codes. Most of the commenters requested increases in RWVs for services. According to HCFA's calculations, if all these requests had been granted, 1993 spending would have been \$2.4 billion higher in 1993 than it would have been otherwise. This would have required a 9 percent reduction across the RVS to maintain budget neutrality.

HCFA restricted its refinement of RWVs to the 1,000 codes that were questioned by the public. It ultimately identified 791 codes to be evaluated by multispecialty panels composed of carrier medical directors and physicians nominated by specialty societies. Each panel contained 13 physicians from 4 groups: 2 clinicians from the specialty most identified with the procedures, 4 physicians from related specialties, 2 primary care clinicians, and 5 carrier medical directors. A set of 112 reference services was derived from the 200 proposed by eliminating those to which the public objected.

Specialty societies requesting changes made presentations to the panels. After discussion among the presenters and the panel, each panelist privately rated the work of each service. If each panel's median RWV rating for a code had been designated as the final value, RWVs would have increased for some 630 codes, decreased for 80, and remained the same for 80.

This would have resulted in \$1 billion in additional spending. This large-scale inflation in the value of services was predictable because the refinement process had almost exclusively focused on values that were regarded as too low.

Because of the likelihood that this would happen, HCFA used a set of decision rules that favored existing RWVs and that could be overcome only if there was a clear consensus that a RWV was substantially in error. Ratings were analyzed statistically for agreement among the four groups of physicians on each panel. If at least three of the groups agreed on a value for a service, and if that value differed significantly from the existing RWV, the new value was adopted. Otherwise, the existing value was retained. When the groups did not agree, the code was referred to a HCFA review panel for further consideration.

Using these decision rules, work values were increased for about 360 codes and decreased for 35; the rest were not changed. The projected additional spending from relative value changes was \$700 million, and the budget-neutral rebasing of the RWV (when combined with other RVS revisions) required a 2.8 percent reduction in payment rates for all services. This reduction was applied directly to all total relative values rather than through the conversion factor.

Several lessons can be drawn from the experience with the 1992 refinement process. One is that the small-group process was effective. HCFA believes that the multispecialty panels worked well and that the exchange of information enhanced the quality of the results. In addition, the specialty society representatives valued the opportunity to be heard, even if the RWVs they proposed were not always adopted. The decision rules requiring agreement on a substantial change prevented wholesale changes from being made to the RVS and promoted more consistent decisionmaking. HCFA also adopted other decision rules to improve consistency. For endoscopic procedures, for example, a fixed amount was added to the RWV for certain additional services such as biopsy, polyp removal, and control of bleeding.

The process could be improved in several ways. One principal shortcoming is that it identified many undervalued but few overvalued codes. This was partly because most of the relative work values reviewed were selected because they were regarded as too low. Of the more than 6,000 codes that were not reviewed, some probably need refinement. Not formally addressed were possible systematic problems in the fee schedule, such as compression in the scale of relative work. Finally, despite the strict decision rules limiting the increases granted in RWVs, the work value of a service needed to rise by more than 5 percent for its total relative value to remain constant after the 2.8 percent budget-neutral rebasing was done.¹ In 1992, the RWV increases for EM services protected them from this adjustment, but it seems unlikely that values for these services will be increased to this extent in the future.

¹ This is because the work component typically accounts for only half of the total relative value of a service.

The 1992 Update for New and Revised Codes

HCFA in 1992 initiated a process for updating the relative value scale. For 1993, the fee schedule contains approximately 250 interim relative work values for new CPT codes. These values were initially proposed by the American Medical Association's RVS Update Committee (RUC), which comprises 26 voting members and separate advisory committees. Specialty societies that had obtained CPT coding changes proposed RWVs for their new or revised codes. If two-thirds of the RUC's voting members agreed, the recommendation was passed on to HCFA. Otherwise, a subcommittee was appointed to resolve the disagreement.

To set interim values for use in 1993, HCFA reviewed the RWVs submitted by the committee. Because of the timing of the process, the agency considered no other outside input when determining these initial values. HCFA did, however, accept public comments for 60 days after the values were published in the November 25, 1992 *Federal Register* (HCFA 1992). Following further review by a process that HCFA has not yet specified, final values for these codes will be issued for use in 1994.

About 55 percent of the RUC's recommended relative work values were accepted unchanged by HCFA's review panels, which consisted of carrier medical directors and HCFA staff. Of the remaining RWVs, 30 percent were lowered in value and 15 percent were increased. Decision rules to improve consistency were also applied in this process, such as using incremental work values for add-ons to a service (e.g., an additional vein graft during a coronary artery bypass operation). For revised codes, new values were often based on the old ones. When two codes were merged into one, for instance, the new work value was an average of the two former values, weighted by how often the services were performed.

The RVS Update Committee has drawn from its first year's experience to revise its procedures for 1993. It has created mechanisms to promote standardization and consistency in order to guide the subjective decisions that must be made. These mechanisms include the development of a cross-specialty reference set, specified decision rules, and objective data on the services involved. A more rigorous methodology for surveys is now prescribed, any deviations from which must be reviewed by a research subcommittee. Documentation is requested on length of stay; postoperative visits; and pre-, post-, and intraservice time. For revised codes, the committee recommends measuring increments of change in work, rather than revaluing the entire service anew.

Additional improvements in the update process are needed. The RUC does not plan at present to increase the voting representation of primary care specialties. For many, this is the most serious concern with the RUC process itself. Broader input into the establishment of interim values by HCFA is desirable, and the processes by which the agency decides the interim and final values for new and revised codes need to be developed formally in the manner set out in the next section.

REQUIREMENTS FOR UPDATE AND PERIODIC REVIEW PROCESSES

Processes affecting relative work values in the future need to be credible to physicians and other users of the fee schedule. This can only occur if wide input is obtained in developing the processes and specifying the decision rules and guidelines to be followed, and if the process is held accountable for how it operates. On the basis of the experiences with the small-group processes described earlier, the Commission recommends a set of requirements that these processes should meet.

Consistency of Decisionmaking

Ratings of work are inherently subjective; for the scale of work to be equitable, ratings must be as consistent as possible. Methods are needed to make decisionmaking consistent across time, services, and decisionmakers. These should include the use of a reference set of services, objective data on the services being rated, and clear decision rules.

Reference Set. A good reference set can make RWVs more accurate by identifying a relatively narrow range within which the value of a given service should lie. Ideally, the services in the reference set should be important and commonly performed, so that many physicians can relate directly to them. Further, to the extent possible, the reference set should include services performed by more than one specialty, so that different specialists can compare services to the same reference set. In addition, the RWVs of the services in the reference set should be widely accepted. They should span a broad range of work within and among specialties. The precision with which a service can be located on the scale depends on its proximity to the reference services to which it can be compared.

Developing a reference set that meets these criteria is not a trivial matter. HCFA and the RUC recognize this and are cooperating to devise a reference set for use in the update process. HCFA should continue to develop carefully a full reference set that satisfies these requirements and publish it for public comment. All contributors to the update and periodic review processes should use that reference set.

Objective Data. Comparisons can be made more consistently if objective data on the components of services are available. Examples might include the typical time for performing a service or the average length of stay in the hospital after an operation (which is related to the number of postoperative visits). Some of these data might be obtainable from claims files, anesthesia records, or hospital charts. The data should be nationally representative, collected uniformly, and verifiable. If HCFA does not collect these data, it might issue guidelines on how the data are to be collected and verified. HCFA is obtaining some data on components of work for the set of reference services used in the 1992 refinement process.

Data from surveys of physicians might also play a role. Some specialty organizations have commissioned surveys of their members to obtain independent data on work. But resurveys

that use methodologies different from Hsiao's, even if rigorously conducted, pose special issues. To preserve consistency among specialties, the results probably should not be used as a basis for revaluing only the surveyed specialty's codes. (The exception might be if a budget-neutral rescaling could occur for services not performed by other specialties.) Rather, they should be used to identify systematic problems that affect similar services in multiple specialties or to detect codes for which the values may be substantially incorrect. Correcting such problems would require the participation and agreement of many specialties and would be likely to occur only if other convincing evidence supported the broad changes.

A second problem with resurveys stems from the likelihood that, for each specialty, a different methodology could be devised that emphasizes particular aspects of the work it performs that are possibly undermeasured by other methodologies. This would threaten the internal consistency of the relative value scale. In addition, specialties that could not afford to mount a resurvey would be relatively disadvantaged, because nothing would be done to address the problems in their values. On the other hand, it also seems unfair for a specialty to have to tolerate values that seem seriously inaccurate without the opportunity to gather objective information to confirm or disprove their suspicions. Perhaps a middle ground is for resurveys to help identify codes that deserve a closer examination by the standard review process, but not to serve as the basis for revaluing codes. In the future, the impetus for resurveys should probably come from HCFA in order to investigate perceived systematic problems in RVUs.

Decision Rules. Consistency can also be promoted by decision rules such as fixed add-ons for supplementary services. For use in the 1992 refinement process, HCFA developed values for services performed in conjunction with endoscopies, including biopsies (0.32 RVUs), removal of a foreign body (1.07 RVUs), ablation of a tumor or mucosal lesion (2.29 RVUs), and control of hemorrhage (2.14 RVUs). When these services are performed in conjunction with any endoscopic procedure, the associated RVUs are added to the work of the endoscopy alone. HCFA also used decision rules governing when a proposed value should be adopted. Decision rules are important components of the process and should be developed formally with public input.

Fairness

The process should be widely perceived to be fair. All interested parties should be permitted to have input. For example, HCFA should expand the process by which HCFA reviews update recommendations from the RUC so that it includes others besides carrier medical directors. Representation should be proportionate, particularly for primary care physicians, so that voting or rating of work is not dominated by a small bloc.

Fairness involves additional considerations. There should be a level playing field in terms of the resources required to participate. This might be accomplished with guidelines for evidence and presentations. There should not be inherent biases, such as against particular

types of services (e.g., EM services) or identifying overvalued services. The number and type of CPT codes has developed differently among specialties in response to needs other than those of a resource-based system. As a result, some specialties may receive inequitable payment because their codes involve too broad a range of work. Such problems should be identified and addressed in cooperation with the CPT Editorial Panel.

Identification of Overvalued Services

The periodic review should identify both overvalued and undervalued services. One way to accomplish this is to review an entire block of services simultaneously rather than look only at those that interested parties have singled out as needing increases. Another is for specialties (alone or in combination) to propose a budget-neutral realignment of RWVs for a set of services they deliver. The usefulness of this technique may be limited, however, because many services are shared with other specialties that might be disadvantaged by the changes.

Data on components of services, such as typical performance times, might help to identify discrepancies among services with similar RWVs or work intensities. Looking at changes in service components over time might also help identify when a service should be reviewed. When the value of a reference service is lowered, all related services should be reevaluated for potential reductions. The budget-neutrality requirement provides an incentive to limit increases in relative values only to what can be clearly demonstrated to be appropriate and to reduce relative values when needed.

The learning curve for new services is such that these services gradually become less work for physicians. It is desirable to have a built-in review cycle for new services so that their values can be recalibrated after a given period. The periodic review process could be designed to incorporate this recalibration.

Public Accountability

Because public and private payers use the relative value scale, it should be responsive to public needs and oversight. Processes and decision rules should be published and subject to comment. Input should be solicited from all interested parties, particularly non-Medicare payers and consumers. The periodic review process should be open to representatives of the public so that they can be assured that the processes and decision rules are being followed.

The establishment of interim values for new and revised codes is important because they will probably be given an implicit or explicit presumption of correctness when they are being finalized the following year. The process HCFA used in 1992 to consider the values recommended by the RUC did not meet the criteria set out in this chapter. A better process should be developed with public participation and oversight.

Coding Changes

For payment to be equitable, work needs to be calibrated as accurately as possible to a code. Because codes will always encompass a range of work, RWVs must reflect an average of the amount of work a service requires. If substantial numbers of physicians consistently perform work differently from that average, payment will be inequitable and the RVS will lose credibility. If the range of work encompassed within a code is too broad — even if the average work for most physicians is calibrated well — payment for particular instances of that service may seem inequitable. These circumstances are likely to occur because the current coding system was not designed for use in a resource-based payment system. The number and precision of codes describing services delivered by various specialties, for instance, differ markedly. Previously, payment under a specific code could vary to account for differences in the type and difficulty of the services physicians performed. A nationally uniform fee schedule does not permit such differences. The update and periodic review processes potentially could identify when coding changes or modifiers are needed to resolve inequities in payment. Feedback should then be provided to the CPT Editorial Panel.

ADDITIONAL CONSIDERATIONS FOR PERIODIC REVIEW

Periodic review of the fee schedule raises additional issues that do not apply to an update for new codes. One issue is the extent to which refinement of the fee schedule should be incorporated into periodic review. An important but difficult question is how potential systematic problems with the fee schedule can be addressed. Another issue is whether periodic review should be done all at once every few years or yearly in a rolling fashion.

Incorporating Refinement into Periodic Review

The required five-year periodic review can take two different forms. The first would permit changes in RWVs only if clear, objective evidence demonstrates that the work of a service has changed over time. This usually would necessitate showing that the actual physical manner in which the service is performed has changed. For example, operative techniques may change. This occurred when open prostatectomy operations began to include a more careful dissection to spare particular nerves, which probably increased the work involved in the operation. Technological advances may reduce the work entailed in a procedure. Significant shifts in typical time for a procedure might be a good indicator of a change in work.

Adopting this strict decision rule for periodic review would result in making few changes to relative work values. The fee schedule would remain fairly stable over time. But the major disadvantage of this approach is that review of the relative value scale is too limited because it focuses only on isolated services rather than on the relationships among services. Arguments that a service is incorrectly placed on the scale of relative work would not be

considered unless the service itself had demonstrably changed. In other words, further refinement of the fee schedule (correction of values thought to be assigned incorrectly at the outset) would not occur. This approach also would not accommodate changes over time in physicians' perceptions of work (unless there is a consensus that work has changed even in the absence of objective evidence to that effect). If further refinement of relative values would be beneficial, this option would not be desirable — at least initially.

The second approach to periodic review is to reappraise the relative work of a service anew, comparing it with similar reference and other services. This method has the advantage of permitting further refinement of relative work values. Adoption of decision rules similar to those used in the 1992 refinement process would prevent wholesale changes in relative values from occurring. Otherwise, there is a risk that relative values will shift unnecessarily at each review. On balance, given the probable need for additional refinement of the fee schedule, this approach is preferable.

Addressing Systematic Problems in the RVS

Thought must be given to how the periodic review process can address potential systematic problems in the relative value scale. Alleged systematic problems include undermeasurement of preincisional and postincisional work for some operations, compression of the distance between complex and simple services, and misplacement of entire groups of related services on the scale of relative work. Over time, the greater productivity gains for procedural rather than EM services may cause systematic changes in relative work among categories of services. Analysis of the HCFA BMAD-I Procedure files for 1986 through 1990 suggests that productivity differences between visits, which constitute the majority of EM services, and non-visits may exist (Table 10-1). Between 1986 and 1990, the volume of services per physician for general and family practice physicians (GP/FP), whose practices are visit intensive, increased at an annual rate of 4.1 percent. Over the same period, the volume of services per physician for surgical specialists, who provide relatively fewer visits, increased by 6.4 percent, which is 2.3 percentage points faster than for GP/FPs. Even though some of this difference may be attributable to the application of new tests and devices, a share of it is most likely due to differences in productivity growth. This suggests the need for periodic increases in relative work values for EM services and decreases for procedures.

Such systematic problems would not be captured by a periodic review process that compared individual services to related ones, including reference set services. Special procedures need to be developed to address these types of problems. Accounting for differential gains in productivity is especially important and difficult. Methods need to be devised to compare work across categories of dissimilar services. Alternatively, research could be conducted on differential trends in productivity among categories of services.

The reference set of services supplies a mechanism by which systematic problems in the fee schedule can be corrected. The reference set provides a set of girders on which rests the

Table 10-1. Volume of services per physician, annualized growth 1986-1990
Percent

Services	All	General practice/ family practice	Medical specialties	Surgical specialties
All	5.8	4.1	5.6	6.4
Visits only	4.4	4.5	3.9	4.7
Non-visits only	6.1	3.7	6.0	6.5

Source. PPRC analysis of 1986-1990 BMAD-I Procedure files and the Area Resource File data.

remainder of the services. Changes in the work values of reference services would necessitate shifts in the values of related services. This suggests a two-stage process for periodic review. In the first stage, the reference set itself is reviewed. Systematic problems could be corrected in this context. Then, after the reference set has been recast, the values of other related services can be reviewed and made consistent with the changes in the reference set.

The Timing of Periodic Review

Periodic review could be done in a rolling fashion or all at once. A rolling method would permit the participants in the process to gain from experience, but it would require a continuing commitment of time and resources each year or two. It might relieve pressure for coding changes if an avenue were provided to correct substantially inaccurate values. (If there is no way to address incorrect values, specialty societies may seek coding revisions as a backdoor method to revalue a service.) The fee schedule would change each year, but presumably it would be more up-to-date. There is a risk that temporary distortions could be introduced by having changes made to one part of the fee schedule while other services await their turn to be adjusted. But these distortions would likely be smaller than the inequities of waiting for five years to correct all problems at once.

An all-at-once process would require a major effort every few years. It would provide periods of relative calm and greater stability of relative values, but compared to a rolling process, there would be bigger dislocations in the scale of relative work when the review occurs. The RVS could be kept better up-to-date — thus relieving pressure for coding changes intended to alter relative values — if periodic review occurred more often (such as every three or four years) and if there were a mechanism for a limited number of clear problems to be addressed out of turn (perhaps along with the yearly update for new codes).

There are advantages to both options. In either case, periodic review should begin sooner than the maximum five-year limit to accommodate additional refinement. After some experience is gained with the process and refinement is largely completed, it may become clearer how often periodic review needs to be done.

Relationship of Periodic Review to Update for New Codes

Conceptually, the process of assigning values and the data needed to do so are similar for both updates and periodic reviews. There may be advantages to retaining separate processes, however. The magnitude of the two tasks differs greatly. The services included in an update are likely to span a broad range of specialties, while those for a rolling periodic review may be confined to certain specialties (because similar services would be reviewed at the same time).

THE POTENTIAL DEVALUATION OF EM SERVICES OVER TIME

The update and periodic review processes may cause EM services to become devalued over time relative to non-EM services. If all services were valued correctly, this result would represent true shifts in work and should be accepted within the context of the RVS. In other words, if values of EM services *correctly* diminish in relation to procedural services and this is viewed as undesirable, redistribution of payments should be effected outside of the relative value scale. But the biases toward upward valuation of services that characterize current processes for setting relative values — unless corrected — will cause EM services to be devalued *inappropriately* over time. The broad, nonspecific nature of EM codes makes it difficult to demonstrate that the work embodied in a code has changed, while it may be easier to document changes in procedural services that may increase work. The effect is exaggerated by the fact that the number and type of EM codes are relatively fixed, while procedural codes continue to proliferate.

In addition to biases in review processes, the faster productivity growth of procedural services (discussed earlier) could passively increase relative payment for procedural versus EM services. Unless periodic review actively detects and corrects for differential productivity growth, procedural services will gradually become overvalued compared to the actual work embodied in them. Learning curve effects for new procedures are a clear example of how differential growth in productivity can cause procedural services to become overvalued over time.

It is not clear to what extent EM services will become inappropriately devalued by the update and periodic review processes. The 1992 refinement process demonstrates that, if substantial numbers of codes are reviewed and upward bias exists in the review process, the effects on EM services can be significant. It is not certain whether future yearly updates for new codes will cause inappropriate devaluation of EM services. HCFA estimated that the additional Medicare spending in 1993 resulting from the update for new and revised codes would have been about \$50 million. In itself, this would have caused only a 0.3 percent reduction in the conversion factor. In addition, some of the projected additional spending was due to increased payment for certain EM services for which new or revised codes were established. Future updates may differ, however, and over time the cumulative effects of the update process may be greater.

The concern about the risk of inappropriate devaluation of EM services could itself have undesirable effects. It may cause hesitation to refine RWVs for non-EM services, even though changes may be needed. There may also be reluctance to revise or add codes in the CPT process in response to the imperative to protect EM relative work values, even though there may be other needs for the changes (such as improvements in data).

EM services can be protected from inappropriate devaluation in two ways. The first is to devise update and periodic review processes that are so accurate and fair that any decreases in RWVs for EM services reflect real shifts in work to non-EM services. The second method is to give HCFA the authority to insulate EM services, if necessary, from the budget-neutral adjustment needed when non-EM RWVs are disproportionately increased. This protection should be accorded only if EM services are passively devalued by processes that do not maintain an accurate relationship between EM and non-EM services. For periodic review, a bias toward upward valuation of procedural services would probably be demonstrated if significantly more services were increased in value than were decreased, but this criterion would not capture differential productivity gains for procedural services. Until update and periodic review processes assign work values without bias and identify overvalued as well as undervalued services, the Commission believes HCFA should have the authority to insulate EM services from inappropriate devaluation.

SHOULD BUDGET-NEUTRAL ADJUSTMENTS BE MADE USING THE CONVERSION FACTOR?

For 1993, HCFA reduced the total relative values of all services by 2.8 percent to make the changes to the relative value scale budget neutral for Medicare. HCFA did not believe it had legislative authority to adjust the conversion factor for the effects of the refinement and update processes. Some have recommended legislation to require that future budget-neutral adjustments be made on the conversion factor instead of on relative values. Several considerations suggest that adjusting relative work values is preferable to adjusting either total relative values or the conversion factor.

First, adjusting total relative values or the conversion factor distorts the relative value scale. The 1992 refinement process increased the work values of services, while the adjustment reduced the work, practice expense, and malpractice components alike. If this were to continue in the future, the relative value scale would become inappropriately skewed toward work at the expense of the practice cost and malpractice components. This can be avoided if the budget-neutral adjustment is made on relative work values alone.

Second, if EM services need to be temporarily protected from inappropriately being devalued by updates for new codes and periodic reviews, this is best accomplished by making budget-neutral adjustments on relative values rather than on the conversion factor. A practical barrier to using the conversion factor is that there is no separate conversion factor for EM services.

More important, making the budget-neutral adjustment on relative values would preserve the values of EM services for all RVS users, not just for Medicare. If the adjustment were to be made on the conversion factor, other payers desiring to protect EM services in a manner similar to Medicare's would have to adopt a separate conversion factor for these services and make yearly changes in it paralleling those of Medicare.

A final consideration is the principle of keeping the relative value scale calibrated accurately to the actual work entailed in delivering a service. To achieve this requires that incorrect values (such as those of inappropriately devalued EM services) be adjusted directly. Indirect methods, such as adjusting a separate conversion factor, would correct payment but not the relative values themselves.

The effect on Medicare's payments is the same whether the relative value scale or the conversion factor is adjusted. Non-Medicare payers also can ensure that their total payments are unaffected by revisions to relative work values. For them, the effects of inaction differ among the two methods. If Medicare makes its budget-neutral adjustment with the conversion factor, other payers must also reduce their conversion factors if they do not want their total payments to increase passively as a result of changes in relative values. If Medicare adjusts the relative values to achieve budget neutrality, the revisions to the relative value scale will be approximately budget neutral for other payers without requiring any action on their part. For physicians, it may be easier to interpret changes in conversion factors of all payers that use the relative value scale (including Medicare) if budget-neutral adjustments for changes in relative values are not made on the conversion factors.

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PAYMENT FOR THE ANESTHESIA CARE TEAM

In 1991 the Commission recommended that the total Medicare fee paid for services furnished by an anesthesia care team consisting of an anesthesiologist and a certified registered nurse anesthetist (CRNA) not exceed the payment made to a solo anesthesiologist for the same service. Under current law, without clinical or other justification, the total payment for an anesthesia service provided by an anesthesia care team exceeds that made to a solo practitioner.¹

The Commission's recommendation for capping the payment was contingent on changing the provision of the Omnibus Budget Reconciliation Act of 1990 (OBRA90) that set the conversion factor of medically directed CRNAs (those practicing in care teams) at what was projected to be 70 percent of that for solo CRNAs. As the Commission previously noted, without changes to that OBRA90 provision, adopting a cap would discourage the use of anesthesia care teams because it would not be economically viable for anesthesiologists to practice in teams. To remedy that problem, it considered alternative approaches to paying for services provided by anesthesia care teams. In doing so, it sought policies that would best preserve the use of the care team and least disrupt current employment patterns.

RECOMMENDATIONS

The Commission continues to support its previous recommendation that payment for services provided by an anesthesia care team consisting of an anesthesiologist and a certified registered nurse anesthetist should not exceed the payment made to a solo anesthesiologist for the same service.

During the first year of a four-year transition, Medicare payments for services provided by anesthesia care teams should be capped at 120 percent of the payment made to the solo anesthesiologist. For each of the following four years, the cap should be reduced by 5 percentage points. At the end of the transition period, payments should be capped at 100 percent of the payment made to the solo practitioner. The payment to the team should be split so that each practitioner receives 50 percent.

Although the goals of preserving the care team and causing the least disruption to employment patterns are difficult to meet with a capped payment policy, splitting the

¹ Background material for this chapter was prepared by Margo Rosenbach and Carol Ammering of the Center for Health Economics Research.

payment at 50 percent between care team members is the best available option. It would retain incentives for anesthesiologists to practice in teams and for those hospitals that employ CRNAs to continue to do so. A transition to the capped amount would allow providers to adjust to reduced payment levels and the federal government to monitor any changes in access and quality of care.

First, this chapter presents background information on the anesthesia care team. Then, the Commission's recommendations are discussed along three key dimensions: whether to pay a single entity or to split the payment, how to split the payments between anesthesiologists and CRNAs if two payments are made, and finally, whether to adopt a cap at 100 percent of the solo rate or to phase in a payment cap.

BACKGROUND

This section first reviews the history of Medicare payment methodologies for anesthesia care team services. Next, current and historical payment levels are analyzed. An overview of the role of the anesthesia care team and the quality of care provided by the team is presented. Finally, the Commission's previous recommendations on the anesthesia care team are reviewed.

Medicare Payment Methodologies for Anesthesia Services

Until the early 1980s, Medicare paid CRNAs' employers (hospitals or physicians) for their services. Currently, CRNAs are paid directly, and payment methodologies for anesthesiologists and solo CRNAs are similar. The conversion factors for solo CRNAs and anesthesiologists will be the same after the full implementation of the Medicare Fee Schedule. Payments to medically directed CRNAs are set at what was projected to be 70 percent of the rate for solo practitioners.

Previous Payment Methodologies. In the early 1980s, before the introduction of Medicare's prospective payment system (PPS) for hospitals, services provided by hospital-employed CRNAs were paid through cost-based reimbursement under Medicare Part A. Anesthesiologists who employed and supervised CRNAs were paid as if they personally handled the case, while anesthesiologists who supervised CRNAs employed by hospitals were paid a slightly reduced amount. Medicare paid a single check to anesthesiologists who medically directed their CRNA employees and two checks when the CRNA was hospital-employed (one to the hospital and one to the anesthesiologist).

Initially under PPS, the costs of hospital-based CRNAs were included in the Medicare Part A diagnosis-related group (DRG) payment, resulting in a disincentive for hospitals to employ CRNAs. At that time, many hospitals attempted to shift employment of CRNAs to

anesthesiologists, in order to shift costs onto Medicare Part B. In response to this situation, under the Deficit Reduction Act of 1984, CRNA costs were removed from the Part A DRG payment and treated as a cost pass through. Anesthesiologists' services continued to be paid under Part B.

Under OBRA86, CRNAs were granted direct reimbursement under Medicare, effective January 1, 1989. CRNAs were not allowed to balance bill, however. This resulted in the submission of two claims for services furnished by the anesthesia care team — one from the anesthesiologist and one from the CRNA — regardless of whether they were employed by the same entity.

Current Payment Methodology. Anesthesiologists and CRNAs are paid based on the Uniform Relative Value Guide (URVG). Under the URVG, the relative value of a specific service is the total of base units for a procedure (which signify the complexity of the procedure) and time units (which represent the amount of time used during the delivery of the service to a specific patient). Base and time units are multiplied by a dollar conversion factor to determine the payment for a service.

When a solo anesthesiologist or solo CRNA provides anesthesia services, the payment is determined by summing base and 15-minute time units and multiplying them by a conversion factor. Currently, conversion factors differ for anesthesiologists and solo CRNAs, but they will be the same by 1996.

Unlike the previously described situation, when an anesthesia service is provided by an anesthesia care team, two separate payment determinations, one for the supervising anesthesiologist and the other for the medically directed CRNA, are made. Both are based on the same relative value scale (employing base and time units) as used to pay solo practitioners. For CRNAs, base and time units are used in exactly the same fashion, but the conversion factor is set at a dollar estimate of what was projected to be 70 percent of the conversion factor for solo CRNAs.

After the full implementation of the fee schedule, the conversion factor for the medically directed CRNAs will not be 70 percent of the solo practitioner's conversion factor, however. At the passage of OBRA90, the conversion factor for the solo practitioner was projected to be \$16.75 and, therefore, the medically directed CRNA conversion factor was legislated to be \$11.75. Since reductions in the anesthesia conversion factor were more significant than anticipated (29 percent compared with an expected 19 percent), the conversion factor for medically directed CRNAs will be greater than 70 percent of the conversion factor for solo practitioners at the end of the transition.

For anesthesiologists practicing in teams, base units are reduced by 10 percent, 25 percent, or 40 percent for the direction of two, three, or four cases, respectively. The calculation of

time units for the anesthesiologist providing care as part of a team is based on 30-minute intervals. The conversion factor, however, remains the same as for the anesthesiologist working alone.

This provision has actually led to cost increases for anesthesiology practices because of increased reporting requirements. Practices have hired clerical staff to track and schedule concurrent procedures, adding to the overhead costs associated with their practice. For example, one practice, with 13 anesthesiologists and 50 CRNAs, requires 1.5 full-time equivalent clerical staff to chart and graph procedures each day.

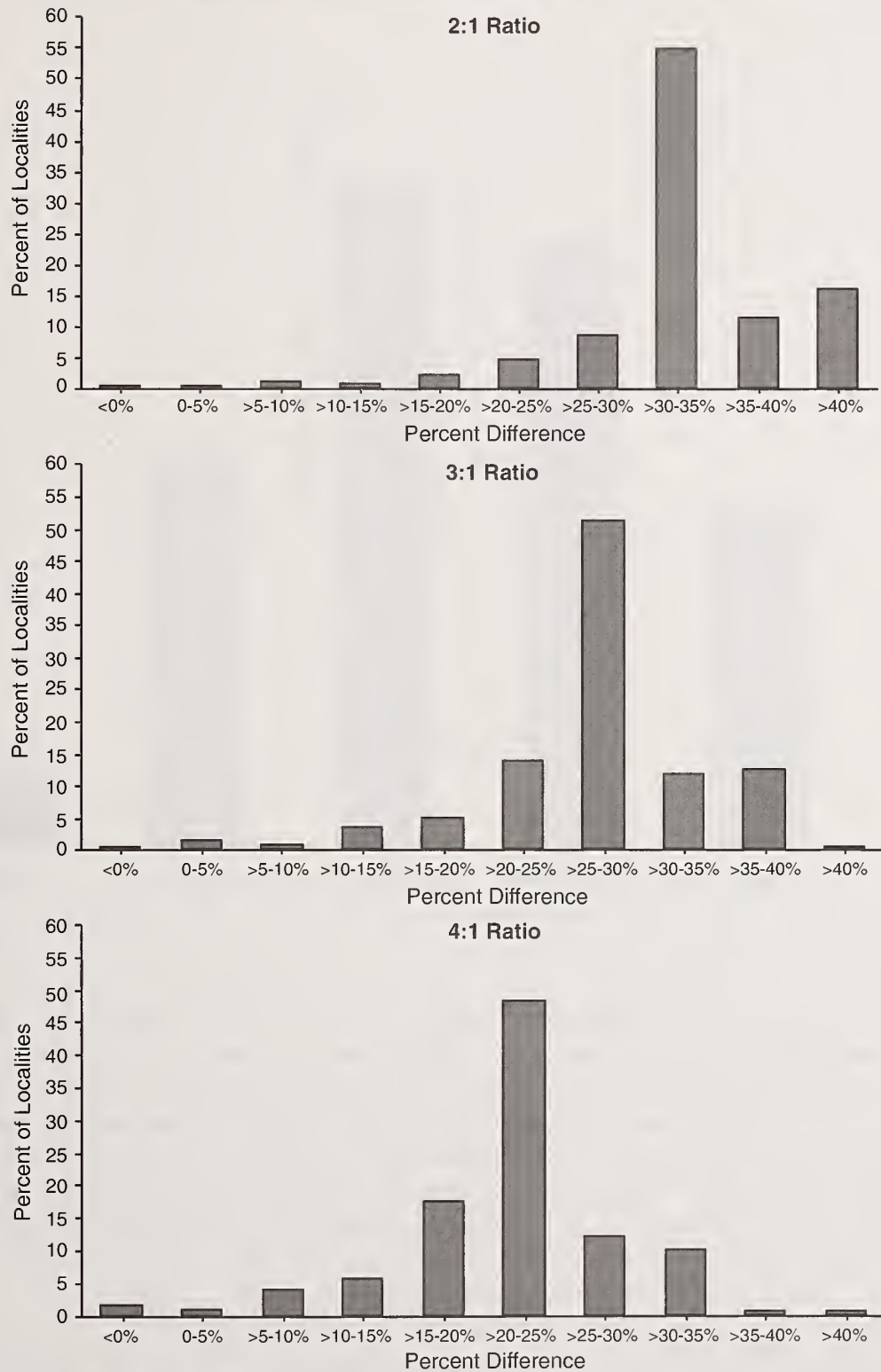
Analysis of Current Payment Levels

Analysis of current payments to solo practitioners versus the anesthesia care team reveals that Medicare pays more for cases performed by the anesthesia care team than by solo practitioners (even taking into account the 10/25/40 percent base unit reductions and halved time units for anesthesiologists). In the vast majority of localities, payments to the anesthesia care team under a 2:1 supervision ratio are 30 percent to 35 percent higher than payments to an anesthesiologist for independently performing a 90-minute hernia procedure (Figure 11-1). Because of the base unit reductions, payments under a 3:1 supervision ratio are 25 percent to 30 percent higher than the solo rate. With a 4:1 ratio, the payment differential is 20 percent to 25 percent. For longer procedures, such as cholecystectomy or coronary artery bypass graft (CABG) surgery, the payment differential between solo and team cases (2:1 ratio) tends to be higher than that for the hernia repair.

The anesthesiologist's and CRNA's share of the team payment varies with geographic locality and complexity of the procedure performed (Figure 11-2). The most common pattern for a hernia repair under a 2:1 supervision ratio was a 50/50 split between anesthesiologists and CRNAs. Another large segment of anesthesiologists received 48 percent to 49 percent of the payment. At the high end, in Nevada, anesthesiologists received 61 percent to 62 percent of the total payment to the anesthesia care team. This variation is a function of historical payment patterns and is not necessarily due to geographic variations in the amount of work involved or the level of practice costs.

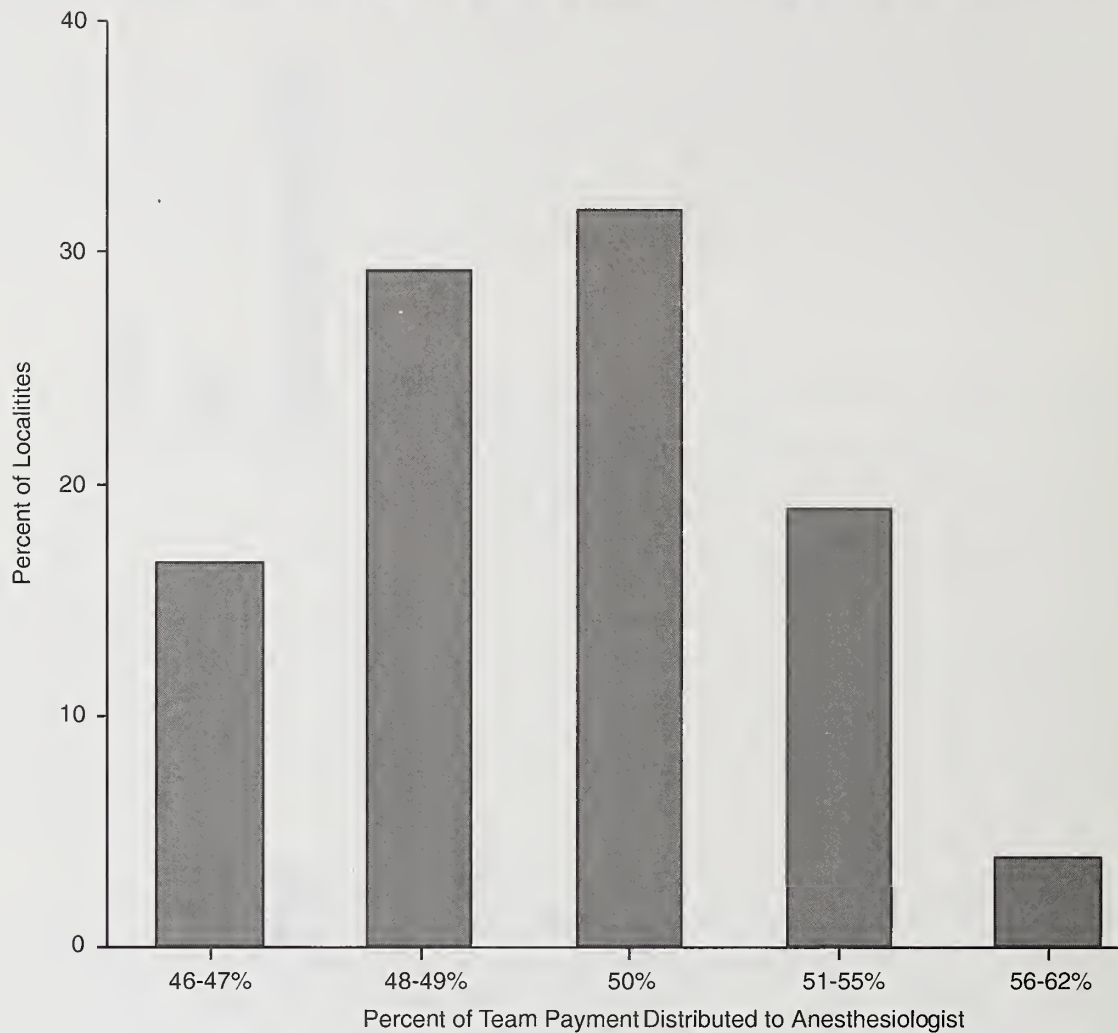
The share of the payment to each practitioner varies somewhat with the complexity of the procedure. The anesthesiologist's share is slightly higher for more complex procedures, such as cholecystectomy and CABG, than for a hernia repair.

Figure 11-1. Payment differentials between anesthesia team and solo cases: hernia repair (10 units), 1992



Source. Rosenbach and Ammering 1993.

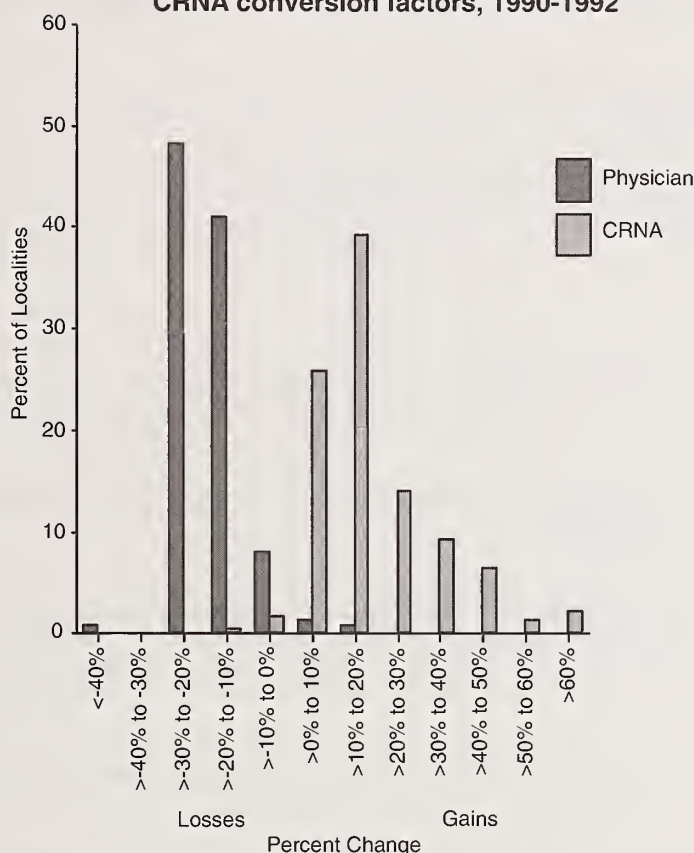
Figure 11-2. Anesthesiologist's share of the anesthesia care team payment for a hernia repair (10 units, 2:1 ratio), 1992



Comparison of current and historical Medicare payment levels indicates that there have been large reductions in the anesthesiologists' conversion factor between 1990 and 1992, while conversion factors for both solo and team CRNAs have experienced significant increases (Figure 11-3). Anesthesiologists in virtually all localities experienced a 10 percent to 30 percent reduction in the conversion factor between 1990 and 1992. During the same period, Medicare conversion factors to medically directed CRNAs rose, with most increases in the range of 10 percent to 20 percent.² In making these changes in conversion factors, the Congress wanted to achieve equity between these providers of anesthesia care and also rationalize the pattern of payments for different services on the basis of resource costs.

² It is difficult to compare income and fringe benefits for these practitioners because of a variety of employment arrangements.

Figure 11-3. Trends in Anesthesiologist and CRNA conversion factors, 1990-1992



Source. Rosenbach and Ammering 1993.

Anesthesia Care Team

The use of the anesthesia care team seems to be determined primarily by individual preferences for practice arrangements. There appear to be no demonstrated quality of care differences between the care provided by the solo anesthesiologist, solo CRNA, and the team.

Use of Anesthesia Care Team. The majority of anesthesia services in the United States are delivered by an anesthesia care team with an anesthesiologist medically directing two or more CRNAs (AHA 1981). Individual preferences and manpower supply considerations appear to be the primary driving forces behind an anesthesiologist's decision to practice in an anesthesia care team (Rosenbach and Cromwell 1989). Anecdotal evidence suggests a number of other factors which have made the anesthesia care team the dominant mode of practice for anesthesiologists and CRNAs:

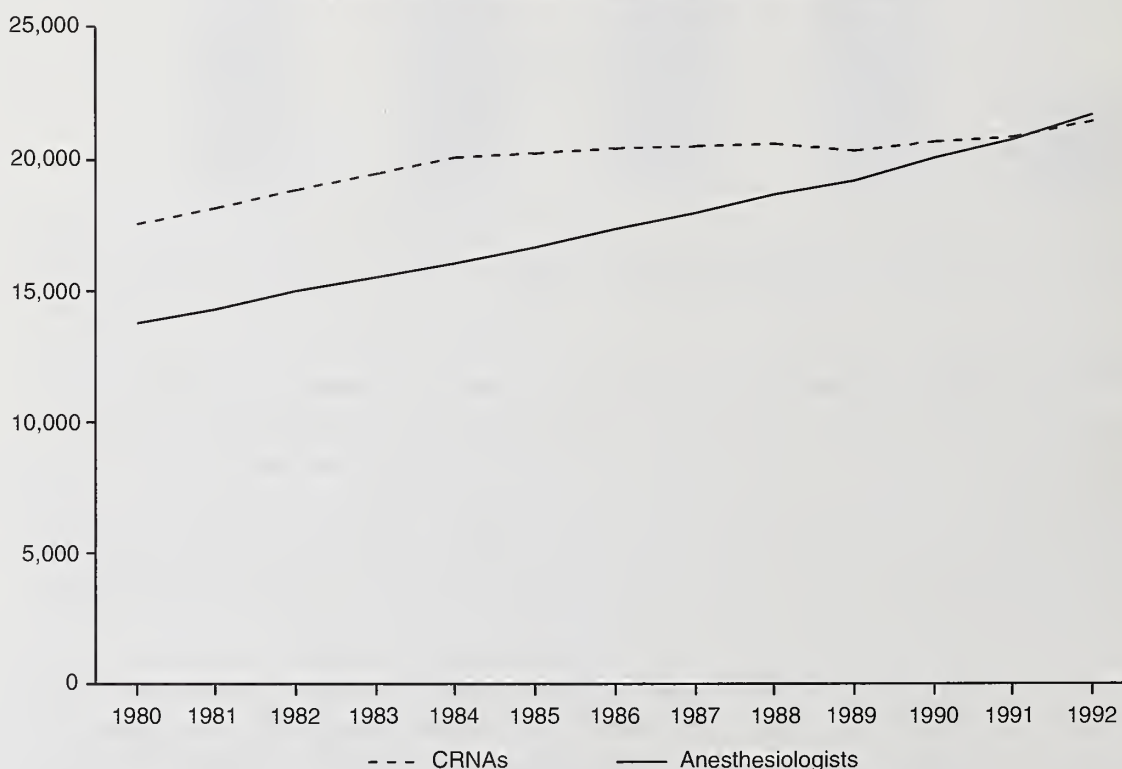
- Where payment historically has been relatively low (in the Northeast and South), anesthesiologists have practiced in an anesthesia care team to compensate for lower conversion factors. In contrast, where conversion factors have been generous (especially in the West), anesthesiologists have tended to practice alone.

- Anesthesiologists have begun to medically direct CRNAs in hospitals that previously relied on CRNAs working under surgeons' supervision.
- Anesthesiologists and CRNAs contend that quality of care is enhanced in an anesthesia care team, because two heads are better than one.
- Similarly, the availability of four hands has led to efficiency gains in the operating room, including reductions in the amount of time required for preoperative preparation of the patient and faster turnaround between cases.

The vast majority of CRNAs practice in a team arrangement with anesthesiologists, although only about 34 percent are actually employed by physicians (AANA 1991). In 1987 about 67 percent of anesthesiologists reported that they medically directed CRNAs. By 1990 about three-fourths of anesthesiologists were practicing in an anesthesia care team at least part of the time (ASA 1987; ASA 1990).

This trend toward increased practice in a team arrangement has occurred during a time when CRNA supply has remained relatively constant (about 21,000), while anesthesiologist supply has increased consistently over the last decade (Figure 11-4). Anesthesiologist supply equaled

Figure 11-4. Trends in anesthesia manpower



Source. Rosenbach and Ammering 1993.

and possibly even exceeded CRNA supply for the first time in 1991-1992.³ Steady increases in the number of nurse anesthesia students in the early 1990s may turn the CRNA supply trend upwards, however.

The anesthesia care team continues to be recognized as a viable and desirable mode of practice as patient severity has increased, and as demands outside of the operating room have proliferated. The case mix of the anesthesia care team does not differ significantly from that of solo anesthesiologists, however (Rosenbach et al. 1988).

Quality of Anesthesia Care. There is no evidence that CRNA involvement significantly affects anesthesia mortality (Forrest 1980; Gilbert 1980; Bechtoldt 1981). None of the existing studies, however, examined the relationship between the level of CRNA supervision and anesthesia outcomes.

One study compared anesthesia mortality and adverse events in 17 hospitals nationwide (Forrest 1980). These hospitals were classified according to the primary arrangement for providing anesthesia services at the hospital level: those using primarily anesthesiologists and those using primarily nurse anesthetists. After correcting for differences in hospital size, no significant differences were found for mortality rates or the incidence of adverse events (Forrest 1980).

A second study, limited to cases at Massachusetts General Hospital, compared expected versus actual outcomes, controlling for patient characteristics and the anesthetist's training and experience. Senior physicians had better outcomes than expected based on the health status and age of the patient and type of operation, but practitioners at all other levels of experience and training (more junior anesthesiologists, residents, and CRNAs) had outcomes that were neither better nor worse than expected (Gilbert 1980).

A third study looked retrospectively at anesthetic-related deaths in North Carolina from 1969 to 1975. Ninety deaths were determined to "have had a significant relationship to the administration of anesthesia," according to the Anesthesia Study Committee. The mortality rate for CRNAs working alone was 1:20,723, whereas the rate for an anesthesiologist working alone was 1:24,500 and for the CRNA/anesthesiologist team, 1:28,166. Although the study concluded that mortality rates were "rather similar," no statistical criteria were provided (Bechtoldt 1981). This study did not control for patient characteristics.

The Commission's 1991 Recommendation

In 1991 the Commission recommended that fees paid to an anesthesia care team be capped at the solo anesthesiologist's level because there was neither a clinical justification nor a demonstrated benefit to the patient in using the care team. Although there may be selected

³ These figures are based on the number of members in the American Society of Anesthesiologists and American Association of Nurse Anesthetists who are active in practice and exclude residents, students, and retirees.

instances when the additional hands available with a care team are needed to provide the service, the decision to use a care team largely appears to be determined by practice style preferences of practitioners and hospitals.

The Commission's recommendation was contingent on the revision of current payment policies, which were legislated in OBRA90. While the implicit intent of OBRA90 was to pay medically directed CRNAs at 70 percent of the amount paid to solo practitioners, the medically directed CRNA conversion factor will be higher than that. This results from specification of the conversion factor in dollars by OBRA90 and further reductions in the anesthesiologists' conversion factor in the final rule for the Medicare Fee Schedule.

If payments are capped with medically directed CRNAs receiving 70 percent or more of the total payment, care teams would be used less frequently. Anesthesiologists would receive low payments in most situations. For example, if the cap were adopted and the 70 percent provision remained, anesthesiologists supervising two or three CRNAs would be receiving less per hour than they would receive practicing solo. Although the anesthesiologist would make more practicing with a 4:1 supervision ratio than solo, it is unclear whether this would be enough to reward anesthesiologists for the additional effort associated with supervision. Since the typical supervision ratio is currently 2:1 and arranging service delivery to maintain a 4:1 ratio may be difficult, these changes would threaten continued use of anesthesia care teams as they now function.

Given significant decreases in the anesthesiologists' conversion factor due to the fee schedule and the additional decreases that would occur if team payments were capped, the Commission suggested a transition to capping payments to the care team (PPRC 1991). A transition would allow providers to adapt to changes, while permitting the federal government to monitor the impact of this policy change.

EVALUATING OPTIONS FOR ANESTHESIA CARE TEAMS

The Commission approached its recommendations with three types of information. First, general criteria for the changes in payment to the anesthesia care team were considered. Second, a technical advisory panel composed of three anesthesiologists and three CRNAs was convened for a one-day meeting to evaluate payment options for the anesthesia care team. Finally, simulations were developed to show the impact of various policy options.

Criteria. Given the Commission's previous recommendation to cap payments, policy options were reviewed according to a number of criteria. First, the policy should provide incentives to maintain the anesthesia care team as a viable mode of practice to the extent possible, and moreover, should result in the least disruption of current employment arrangements. Second, the policy should not adversely affect the quality of care or access to care. In addition, administrative feasibility should be considered from the perspectives of both the Medicare program and providers (anesthesiologists, CRNAs, and hospitals).

Technical Advisory Panel. To assist in the evaluation of payment options for the anesthesia care team, a technical advisory panel was convened. Nominations for the panel were sought from the American Society of Anesthesiologists (ASA) and the American Association of Nurse Anesthetists (AANA). Panel members were selected on the basis of geographic representation, familiarity with economic and manpower issues, and type of practice arrangement. The panel met on December 19, 1992, in the offices of the Center for Health Economics Research, Waltham, Massachusetts.⁴

At the panel meeting each member described his or her practice, including employment arrangements, teaching involvement, clinical privileges, and typical supervision ratios in order to understand the impact of different payment options. Then the panel discussed general criteria for evaluating payment options and offered opinions about feasibility and impacts of alternative proposals. Using simulations, the panel considered the effects of payment options on incentives for the care team, employment arrangements, and access and quality of care. Although the panel narrowed the range of options, it could not reach consensus on the split of payments between providers. CRNAs supported a split that paid them 60 percent and anesthesiologists supported a 50 percent split. Information from the technical advisory panel contributed significantly to the Commission's evaluation of policy options. A report based on information provided at the meeting of the technical advisory panel was presented to the Commission.

Two related issues were raised by panelists during the meeting but are not addressed in this chapter. The first related to the eight conditions for payment to the anesthesiologist for medical direction specified in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA).⁵ The TEFRA provisions were originally imposed to set a minimum standard for medical direction. Previously, a single anesthesiologist may have "supervised" a large number of concurrent cases, with no direct patient contact and, occasionally, without being present in the hospital. There was a difference of opinion expressed among panel members about whether these provisions should be relaxed or eliminated. The CRNAs supported such a change to increase flexibility, and anesthesiologists favored the current policy to protect quality of care. With the implementation of a capped payment, the Health Care Financing Administration (HCFA) should consider whether to review the TEFRA requirements to see if modifications of the TEFRA rules would permit greater efficiencies without decreasing the quality of care.

⁴ The technical advisory panel was composed of the following members: Bertram W. Coffey, M.D., Raleigh, North Carolina; Sharron L. Fassett, CRNA, M.S., Sylmar, California; Peter Hendricks, M.D., Birmingham, Alabama; Kathleen Hittner, M.D., Providence, Rhode Island; Curtis Pudwill, CRNA, B.A., Rapid City, South Dakota; and Christine Zambricki, CRNA, M.S., Royal Oak, Michigan. The panelists served as individuals rather than as representatives of their associations or employers.

⁵ The eight conditions are that the anesthesiologist must perform a preanesthesia exam and evaluation; prescribe the anesthesia plan; personally participate in the most demanding procedures in the anesthesia plan, including induction and emergence; ensure any procedures not personally performed are performed by a qualified individual; monitor the course of anesthesia administration at frequent intervals; remain physically present and immediately available for diagnosis and treatment of emergencies; provide indicated postanesthesia care; and refrain from personally providing anesthesia at the same time.

CRNAs also raised a second issue relating to the process through which decisions regarding clinical privileges in hospitals are made. They feared that as the incentive for practicing in anesthesia care teams decreased, solo CRNAs could be denied clinical privileges in hospitals by decisions that are controlled by physicians with little input from nurses.

Simulations. Simulations were conducted for a hypothetical scenario — a hernia repair receiving 4 base units and 6 time units (10 units altogether) — to understand the impact of alternative policy options (Table 11-1).⁶ The baseline payments were calculated according to the current methodology:

- For solo practitioners, payment was calculated by multiplying base and time units times the anesthesiologist conversion factor.
- For anesthesiologists providing medical direction, payment was calculated by multiplying reduced base and time units times the anesthesiologist conversion factor.
- For medically directed CRNAs, payment was calculated by multiplying base and time units times the medically directed CRNA conversion factor.

The baseline conversion factor used for solo practitioners was the weighted national average anesthesiologist conversion factor for 1992 (\$16.91). The medically directed CRNA conversion factor was set at 67 percent of the anesthesiologist rate.⁷ Policy options used conversion factors set at 100 percent or 120 percent of that for the solo practitioner and divided the payment between members of the team by the designated percentage split. Unlike current policy, under all policy options, there were no reductions in time and base units for the anesthesiologist practicing in teams because the payment split is specified.

In the simulations, payments were calculated in three ways to evaluate the impact of the policy options. First, per-case payments and, when a team is used, payments for each practitioner are presented.

Second, income per hour was estimated for each practitioner.⁸ Income per hour provides a common benchmark against which to compare the revenues to the provider (or practice)

⁶ Simulations were also performed for cholecystectomy (7 base units, 7 time units) and CABG surgery (20 base units, 24 time units). Because the payment levels are driven exclusively by the payment split, the conclusions are not affected by varying the assumptions on base and time units.

⁷ The average (mean and median) ratio across all localities between the 1992 medically directed CRNA conversion factor and the anesthesiologist conversion factor was 0.67. The solo CRNA conversion factor was assumed to be equivalent to the anesthesiologist conversion factor.

⁸ For the hernia repair that takes 90 minutes, the payment per anesthesiologist is divided by 1.5 to derive the hourly payment.

Table 11-1. Simulation of Medicare payments for a hernia repair to anesthesia care team, selected policies, and selected divisions of payment between CRNAs and physicians^a

Dollars

Type of practitioner and supervision ratio	1992 payment	Cap at 100% of solo rate				Cap at 120% of solo rate		
		CRNA/physician split				CRNA/physician split		
		70/30	60/40	50/50	40/60	60/40	50/50	40/60
<i>Payment per case</i>								
Solo practitioner								
CRNA	169.01	169.10	169.10	169.10	169.10	169.10	169.10	169.10
MD	169.10	169.10	169.10	169.10	169.10	169.10	169.10	169.10
2:1 team, total								
CRNA	224.96	169.10	169.10	169.10	169.10	202.92	202.92	202.92
Physician	113.35	118.37	101.46	84.55	67.64	121.75	101.46	81.17
	111.61	50.73	67.64	84.55	101.46	81.17	101.46	121.75
3:1 team, total								
CRNA	214.81	169.10	169.10	169.10	169.10	202.92	202.92	202.92
Physician	113.35	118.37	101.46	84.55	67.64	121.75	101.46	81.17
	101.46	50.73	67.64	84.55	101.46	81.17	101.46	121.75
4:1 team, total								
CRNA	204.66	169.10	169.10	169.10	169.10	202.92	202.92	202.92
Physician	113.35	118.37	101.46	84.55	67.64	121.75	101.46	81.17
	91.31	50.73	67.64	84.55	101.46	81.17	101.46	121.75
<i>Income per hour</i>								
CRNA								
Solo	112.73	112.73	112.73	112.73	112.73	112.73	112.73	112.73
Medically directed	75.57	78.91	67.64	56.37	45.09	81.17	67.64	54.11
Physician								
Solo	112.73	112.73	112.73	112.73	112.73	112.73	112.73	112.73
2:1	148.81	67.64	90.19	112.73	135.28	108.22	135.28	162.34
3:1	202.92	101.46	135.28	169.10	202.92	162.34	202.92	243.50
4:1	243.50	135.28	180.37	225.47	270.56	216.45	270.56	324.67

^aThe hernia repair involves 4 RVUs and 90 minutes. The conversion factor for physicians and solo certified registered nurse anesthetists (CRNAs) is \$16.91; the conversion factor for CRNAs who are members of a team is \$11.34.

Source. Rosenbach and Ammering 1993.

according to practice arrangement. In particular, these data provide a measure of the returns to practicing in the anesthesia care team (rather than a solo arrangement), and suggest the direction and magnitude of the incentives for team anesthesia. It should be noted that the income per practitioner per hour does not represent an hourly wage

per se given the considerable amount of uncompensated services and downtime each day.⁹

Finally, payment per unit was calculated for the CRNAs to evaluate the incentives for employment of CRNAs.¹⁰ Hospitals and physician groups, the two major employers of CRNAs, determine the economic viability of employing CRNAs based on the unit costs and unit payments. In contrast, incentives for anesthesiologists to medically direct CRNAs in the anesthesia care team are evaluated according to income per hour.

Policy Recommendations

For payments to anesthesia care teams, the Commission considered whether Medicare should pay one entity (the anesthesiologist, the CRNA or the hospital) or split the payment between two practitioners. The Commission is recommending instead that the payment be split so that each practitioner receives 50 percent. A transition option is also recommended.

Who to Pay. The advantage of making a single payment to an entity is that the federal government would not have to decide how to divide the payment between anesthesiologists and CRNAs. Instead, the decision would be made by the market based on local supply conditions and other factors. A single payment is preferable because it would not interfere with practice arrangements.

A single payment could be paid when both practitioners are employed by a single entity. Separate itemization of amounts paid to each practitioner or standardizing balance billing policies for anesthesiologists and CRNAs would be necessary, however. This policy would be similar to that used prior to direct reimbursement of CRNAs in 1989. Although under this policy Medicare would issue fewer checks, the administrative savings would be small.

⁹ The income per hour produced in the simulation should be interpreted with caution. Both anesthesiologists and CRNAs perform a wide range of uncompensated services each day so that the income per hour may overstate the hourly wage for a given practitioner. Uncompensated services include room set-up; workup of patients who do not undergo surgery (e.g., due to improvement or deterioration in health status, lack of consent); education; and research, among other activities. In addition, anesthesiologists and CRNAs may encounter significant amounts of downtime during the day, for example, due to surgery cancellation, surgeon delays, and on-call responsibilities. On the other hand, the income per hour may understate revenues to the extent that additional income is obtained through balance billing. Whereas CRNAs are required to accept assignment for all Medicare patients, anesthesiologists are permitted to balance bill within the allowed percentages. (Anesthesiologist assignment rates, while historically low, have been rising in recent years.) Opportunities for balance billing will vary by payer mix as well as by state (some states have imposed mandatory assignment for all payers). Nevertheless, income per hour is a useful indicator for the purpose of understanding incentives for practicing in the anesthesia care team.

¹⁰ The CRNA portion of the team payment for hernia repair is divided by 10 (the total number of units) to arrive at the amount paid per unit.

A single payment, however, would be opposed by professional organizations in situations where CRNAs are employed by the hospital (or practice independently under contract) and the anesthesiologists are self-employed. Paying the first to bill also would not solve the dilemma. Limited experience with three private payers in Michigan that reimburse the first to bill suggests that this approach would have a chaotic effect on providers' cash flow.¹¹

Although from the perspective of the federal government a single payment to the care team is the preferable option, it is likely to be opposed by the professional societies for both members of the team. Given this, the Commission considered the best way to split the payment.

Splitting the Payment. Payments should be split so that there are incentives to practice in the care team.¹² The split matters little when anesthesiologists and CRNAs have the same employer. For other employment arrangements, the impact of the split in terms of anesthesiologists' willingness to medically direct CRNAs and hospitals' willingness to continue to employ CRNAs is a key concern.

Given reduction in payments due to the cap, any option may lower providers' incomes and prompt changes in employment arrangements. Since using a team provides efficiencies in operating room use, hospitals may be willing to maintain the salaries of CRNAs practicing in teams in order to generate more revenue from Medicare Part A.

If payments were capped at the solo anesthesiologist rate, CRNAs would receive 70 percent of the payment and anesthesiologists 30 percent under current policy. Within the anesthesia care team, anesthesiologist income per hernia repair would amount to about \$51, versus \$118 to the CRNA. In contrast, an anesthesiologist personally performing the procedure would be paid \$169. An anesthesiologist would need to medically direct four procedures concurrently to exceed the amount earned by practicing solo. This would mean that anesthesiologists would always have to medically direct four CRNAs concurrently to earn as much per hour in the operating room as a solo anesthesiologist (Table 11-1).

¹¹ A minor drawback of issuing a single check is that the explanation of benefits would be issued to a single provider. For example, if Medicare sent the payment to the hospital, the anesthesiologist would not receive an explanation of benefits that could be used to collect the balance bill. A separate statement could be sent to each practitioner, however. In addition, if a single check is provided to the anesthesiologist, separate itemization of the CRNA portion would be required because, under current law, only anesthesiologists are permitted to balance bill patients for amounts exceeding the Medicare allowed charge.

¹² Another potential way to split the payment is to divide it based on the amount of work performed by each practitioner. The work methodology developed by William Hsiao and his colleagues at Harvard University, however, is inappropriate because it was not developed for the purpose of splitting payments between members of two professions who are serving different roles and whose training differs. There are currently no other reliable data to quantify the work performed by the two practitioners, and furthermore, patterns of practice are highly variable across practice settings.

Payment levels that would require a 4:1 or even 3:1 supervision ratio on average would require significant changes in the current mode of practice. Approximately two-thirds of the anesthesiologists who participate in a team practice in a 2:1 supervision ratio (ASA 1990).

Although moving toward a 3:1 or 4:1 ratio may be technically feasible and desirable, averaging a 3:1 supervision ratio would require performing a fair number of cases on a 4:1 basis to balance the more complex cases which are performed on a 2:1 or even 1:1 ratio. Anesthesiologists have indicated that it may be difficult, especially in a tertiary care facility, to maintain even a 3:1 ratio throughout the course of a day. Smaller hospitals with limited volumes and capacity may find it difficult to run three to four operating rooms consistently throughout the day.¹³

With a cap set at 100 percent of the solo anesthesiologist's payment, the split of 70 percent to CRNAs and 30 percent to anesthesiologists is not tenable because there are disincentives for anesthesiologists to practice in teams. Other options considered included a 60 percent split to the CRNA and 40 percent to anesthesiologist (60/40), a 50/50, and a 40/60 split. The 60/40 split would require a 3:1 supervision ratio on average through the course of the day in order to provide financial incentives to anesthesiologists to practice in the anesthesia care team. A 50/50 split would set the break-even point at a 2:1 supervision ratio, consistent with the current mode of practice. The 40/60 split provides anesthesiologists with higher payment for performing supervision under a 2:1 ratio than for personally performing the procedure.

In addition to examining incentives to anesthesiologists to medically direct CRNAs, it is important to consider the financial incentives to the hospitals that employ CRNAs. In particular, hospitals would be concerned about covering the unit cost of CRNAs' salaries and fringe benefits. In the absence of such information, this analysis uses as a benchmark the 1992 unit payment which, in this example, is \$11.34. The OBRA90 provisions for a 70/30 split would actually increase the unit payment for medically directed services to \$11.84 (a 4.4 percent increase). Under a 60/40 split, the unit payment would be \$10.15, 10 percent lower than under the current fee schedule. The unit payment would be about \$8.46 under a 50/50 split (a 25 percent reduction), and \$6.76 under a 40/60 split (40 percent reduction). Thus, the OBRA90 provisions for a 70/30 split provide the greatest incentives to hospitals to continue employing CRNAs.

Setting the Cap Above 100 Percent of the Solo Rate. When payments are capped at the solo rate, it is difficult to foster incentives that would simultaneously encourage hospitals to employ CRNAs and induce anesthesiologists to medically direct CRNAs. Thus, a transitional period is proposed in which the anesthesia care team would be paid at a rate higher than the solo cap. At a 120 percent cap, the 60/40 split would result in an increase in the unit payment to CRNAs from \$11.34 (under the fee schedule) to \$12.18 (Table 11-1).

¹³ As discussed earlier, the literature does not address whether there are quality differentials according to the supervision ratio.

Given increases in CRNA conversion factors between 1990 and 1992, an additional increase would be difficult to justify, however.

The 50/50 split with a 120 percent cap would result in a CRNA unit payment of \$10.15. This represents a 10 percent reduction compared with the current fee schedule amount, although it is still quite favorable relative to the 1990 payments to CRNAs. With this option, payments to the anesthesiologist would be slightly lower for medically directing two concurrent cases (relative to the current fee schedule amount). Three concurrent cases would be paid the same under the current and proposed system and four cases would be paid more than under the current system. It is expected that this would encourage a shift toward concurrent direction of more cases or solo provision of care.

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PART IV

MEDICARE VOLUME PERFORMANCE STANDARDS

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VOLUME PERFORMANCE STANDARDS: EARLY EXPERIENCE

Fiscal year 1993 marks the fourth year in which the Medicare Volume Performance Standard (VPS) system will be in effect. Payment levels have already been updated twice through the VPS process.

The experience with the VPS takes on broader significance in light of the ongoing debates over health system reform (see Chapter 2). Under a rate-setting strategy, this mechanism would apply to all payers and, perhaps, to additional categories of services as well. The experience of the VPS system may guide policymakers seeking to decide how best to control increases in the volume of services under health system reform.

This chapter begins with a discussion of the goals of the VPS and how the VPS process operates. This is followed by a discussion of the implementation of the VPS and issues that have arisen since it was enacted. These concern design issues, such as the number of updates, and technical issues, such as the accuracy of the performance standards. The chapter concludes with an assessment of the evidence to date on how effective the VPS has been in reducing the rate of increase in expenditures.

In general, the VPS is an effective mechanism through which the Congress can achieve its budgetary goals. It is difficult, however, to draw conclusions concerning the degree to which these goals have been met through reduced growth in the volume of services, as opposed to limitation of increases in payment rates. Other influences on volume, especially responses to significant payment rate reductions that were also part of the Medicare payment reform, make it difficult to determine whether the VPS incentives affected the volume of services.

DESCRIPTION OF THE VPS

The VPS mechanism is designed to serve two purposes. First, it serves as a budgeting tool. When the Congress specifies a performance standard, it is establishing a budgetary goal that embodies a judgment on how much the country can afford to spend for Medicare Part B physicians' services. Increases in expenditures that differ from those specified by the performance standard can be offset by subsequent adjustments to payment rate updates. Second, the VPS is meant to focus financial incentives for more appropriate practice onto organizations of physicians that are able to respond to those incentives.

Despite a policy of limiting increases to the Medicare Economic Index (MEI), the Congress has in most years since 1984 written legislation to specify physician payment rate increases.¹ This required both a legislative vehicle and a different ad hoc payment rate adjustment each year. With the VPS, the Congress can specify the rate of increase in expenditures for physicians' services. Payment rate updates are then adjusted in response to the experience with growth in the volume of services.

By design, this mechanism can satisfy budgetary objectives over the two-year VPS update cycle. Performance standards can be set to achieve an acceptable rate of growth in physician expenditures over a longer period of time. The Commission, for example, has established a long-run objective of reducing the rate of growth in Medicare physician expenditures to that of the gross domestic product (GDP) by 1996.

The key to the long-term effectiveness of the VPS is whether the budgetary goals are met by constraint on payment rates alone, or through a combination of constraint on payment rates and volume reductions. Total expenditures are determined by the payment rates and volume of services provided. Controlling growth in total expenditures by limiting payment rate increases may be a successful strategy in the short run. It may not, however, be sufficient in the long run because there are limits to how much payment rates can be reduced. Once these limits are reached, additional reductions may adversely affect beneficiary access to care. Physicians may, for example, either stop accepting new Medicare beneficiaries or even stop seeing those they currently treat.

The long-term success of the VPS is linked to the incentives it creates for reducing the rate of growth in the volume of inappropriate services. Reducing growth in the volume of all services would allow budgetary goals to be met. Achieving such a general volume growth reduction, however, may entail denying beneficiaries access to appropriate services. To avoid this possibility, the Omnibus Budget Reconciliation Act of 1989 (OBRA89) accompanied the VPS with increased federal support for medical effectiveness research and development of practice guidelines to help the medical community respond to the VPS incentives by reducing the volume of inappropriate services.

The VPS does not directly alter the financial incentives under fee-for-service for individual physicians and their patients. Rather, the financial incentive to reduce expenditures is meant to stimulate a collective response by the medical community to slow expenditure growth. It embodies the expectation that the medical profession's organizations and leadership can influence clinical decisions made by individual physicians through the development and dissemination of practice guidelines, educational programs, peer pressure, and by working with Medicare to strengthen and improve utilization and quality review. The financial incentives provided by the VPS could prompt the medical community to be more vigorous in

¹ The MEI reflects changes in physician practice costs and general earnings. Between July 1975 and January 1992, the MEI was used to adjust Medicare prevailing charges for inflationary factors.

developing tools to promote more appropriate use of services, strengthening working relationships with medical review organizations (e.g., peer review organizations), and in making existing educational programs more effective.

The VPS Process

The VPS system consists of two components — volume performance standards and conversion factor updates. Volume performance standards are target rates of growth against which actual growth rates are compared. They are used as a basis for adjusting payment rates in response to expenditure growth.

Conversion factors are monetary multipliers that convert the relative values for physicians' services into payment amounts. The conversion factors are updated through the VPS process. The conversion factor updates for 1993, for example, were determined in part by comparing the actual increase in outlays for 1991 with the 1991 performance standards. The differences were then subtracted from the increase in the MEI for 1993 to determine the updates.

The Omnibus Budget Reconciliation Act of 1989 specifies the process by which volume performance standards are set and conversion factor updates are determined. The Secretary of Health and Human Services is required to recommend conversion factor updates and performance standard rates of increase by April 15 of each year. OBRA89 also requires the Commission to review the Secretary's recommendations, comment on them, and make its own recommendations to the Congress by May 15. The Congress can then act to set the conversion factor update and the performance standard or allow a default formula to take effect.²

OBRA89 specifies the default formula for determining the conversion factor update if no congressional action is taken. According to this formula, the update is equal to the percentage change in the MEI adjusted for:

- the amount by which incurred expenditures exceed (or are less than) the performance standard, and
- any other statutory adjustments.³

Reductions in updates from the MEI are limited under the default formula. For 1992 and 1993, update reductions could not be more than 2 percentage points. This increases to 2.5

² OBRA89 does not clearly specify the date by which the Congress must act. Instead, it directs the Secretary to publish the final conversion factor updates and performance standards within the last 15 days of October.

³ For example, the conversion factor update for 1992 included an OBRA90 mandated 0.4 percentage point reduction from the MEI baseline.

percentage points for 1994 and 1995, and 3.0 percentage points for all succeeding years. There is no limit, however, on how much updates can exceed the MEI.

OBRA89 also requires separate conversion factor updates for surgical and nonsurgical services. Definitions of surgical and nonsurgical services were developed through regulation. For the performance standard, surgical services are those that are both classified by Current Procedural Terminology (CPT) as surgery and are performed by surgeons.⁴ Currently, conversion factor updates for surgical services apply to all surgeries, regardless of who performs them.⁵

OBRA89 specifies that the following factors be considered in setting the performance standard:

- inflation,
- growth and aging of the beneficiary population,
- evidence of barriers to access,
- evidence of inappropriate utilization,
- effects of changes in technology, and
- other factors (e.g., changes in legislation).

As with the conversion factor update, OBRA89 provides a default mechanism for setting the performance standards. Under this mechanism, the performance standards would be determined by the product of the following factors, less a performance standard factor:

- the percentage increase in Part B enrollees (excluding health maintenance organization enrollees) between the past and current fiscal years,
- the weighted average percentage increase in fees for physicians' services for the calendar year months contained in the current fiscal year,
- the average annualized rate of growth in volume and intensity of physicians' services for the last five fiscal years, and

⁴ In 1990, the Secretary defined surgical services to include only those services that had a "type of service" classification of "surgery" in the HCFA Part B data system and were performed by surgeons. VPS-defined surgeons included general surgeons, neurosurgeons, obstetricians, gynecologists, ophthalmologists, oral surgeons, orthopedic surgeons, otorhinolaryngologists, plastic surgeons, proctologists, thoracic surgeons, urologists, podiatrists, dermatologists, hand surgeons, and multispecialty clinics (HCFA 1990). In 1992 this definition was modified to include only those services with a "type of service" classification of "surgery" that were performed by surgeons more than 50 percent of the time (HCFA 1992).

⁵ An important consideration in the development of these definitions was the provision of OBRA89 specifying that there be no specialty differentials.

- the percentage increase in expenditures resulting from changes in law and regulation.

Beginning with the 1993 performance standards, the performance standard factor for default calculations is 2.0 percentage points.

Implementation of Volume Performance Standards

This year will be the fourth one in which the Secretary and the Commission are to make recommendations in compliance with the OBRA89 requirements. For the past three years, there have been differences both between the Secretary's and the Commission's recommendations, and between those and the final standards and updates published in the *Federal Register* (Table 12-1). These differences are briefly summarized below.

Performance Standards. In all three prior years, the Secretary's recommendation for the VPS began with a baseline that combines the four factors specified in the OBRA89 default formula: beneficiary growth and aging, inflation, changes in law and regulation, and the historical rate of growth in volume and intensity. The Secretary's recommendations have made full allowances for the first three factors and an allowance for one-half of the fourth factor.

The Commission's approach has been to start with the Medicare Actuary's baseline projection of increases in expenditures and to choose a factor to subtract from the volume and intensity component of the projection.⁶ This subtraction factor represents, in the Commission's judgment, the largest feasible reduction in volume that is consistent with its long-term goal of reducing the rate of growth in outlays to the nominal rate of GDP growth by 1996.⁷

The different approaches used by the Secretary and the Commission have resulted in different performance standard recommendations. For the 1991 VPS, the Secretary recommended an overall performance standard of 9.9 percent and, based on estimated differences in the impact of law and regulation, performance standards of 8.7 percent for surgical services and 10.5 percent for nonsurgical services.⁸ The Commission recommended a performance standard of 11.2 percent for all services, 9.3 percent for

⁶ The difference between the Medicare Actuary's projection and the baseline used by the Secretary is that the latter uses an extrapolation of a five-year moving average rate of growth in volume and intensity (specified for the default formula) for that component, while the former is based on whatever projection method the Actuary considers most appropriate.

⁷ The Commission's baseline volume and intensity subtraction factor was 2.0 percent for 1991, 2.5 percent for 1992, and 3.0 percent for 1993.

⁸ This differential included estimates by the Medicare Actuary of both the effects of payment rate reductions from OBRA89 and OBRA90 and the responses to these changes by physicians. No differential in baseline growth in volume and intensity was assumed.

surgical services, and 12.1 percent for nonsurgical services. The Commission's surgical and nonsurgical service recommendations were 1.0 percentage point farther apart than the Secretary's, reflecting the Commission's analysis that surgical services were growing more slowly than nonsurgical services and an assumption that this difference would continue through 1991.

Table 12-1. Performance standards and conversion factor updates, 1990-1993^a
Percent

Year	Performance standard ^b			Update ^c		
	Total	Surgical	Non-surgical	Total	Surgical	Non-surgical
1990						
Final ^d	9.1	...	...	...	...	...
Actual growth	10.6	...	...	...	...	...
1991						
HHS	9.9	8.7	10.5	...	...	...
PPRC	11.2	9.3	12.1	...	...	...
Final ^d	7.3	3.3	8.6	...	...	...
Actual growth	8.6	2.9	10.5	...	...	...
1992						
HHS	6.2	4.1	7.1	2.2	...	...
PPRC	8.6	6.6	9.6	2.2	...	...
Final ^e	10.0	6.5	11.2	1.9	...	...
Actual growth (preliminary)	6.0	-0.6	8.5	...	...	...
1993						
HHS	7.3	6.0	7.9	0.9	2.6	0.3
PPRC	8.9	8.9	8.9	0.9	2.6	0.3
Final ^e	10.0	8.4	10.8	1.4	3.1	0.8

^a Changes in the baseline between the time the recommendations were made and the time the final standard was set explain some of the discrepancies between recommendations and final standards.

^b Separate surgical and nonsurgical performance standards were not required until 1991.

^c Total updates were not required until 1992, and separate surgical and nonsurgical updates were not required until 1993.

^d Set by Congressional decision

^e Determined by OBRA89 default formula

Source. Commission compilation of recommendations and final performance standards and updates. Actual growth rates are as reported in the *Federal Register* or otherwise released by the Secretary of Health and Human Services.

The Secretary's recommendations for 1992 were 6.2 percent overall, 4.1 percent for surgical services, and 7.1 percent for nonsurgical services. The Commission recommended a VPS of 8.6 percent overall, 6.8 percent for surgical services, and 9.6 percent for nonsurgical services.

There were considerable differences between the Commission's and the Secretary's 1993 recommendations. The Secretary continued to make recommendations for separate performance standards, which were 6.0 percent for surgical services and 7.9 percent for nonsurgical services, in addition to a performance standard of 7.3 percent for all services. Concerns about difficulties in setting separate standards and potential distortions in the relative value scale (RVS) led the Commission to recommend a single performance standard of 8.9 percent that would apply to all services.

The Congress has acted only once to set the performance standards. In Section 4105 of OBRA90, it instructed the Secretary to set the VPS as the sum of the percentage increases in actual expenditures between fiscal years 1990 and 1991, and the percentage increase (or decrease) in expenditures between fiscal years 1990 and 1991 due to changes in law and regulation, reduced by 2 percentage points, which was essentially the Commission's recommendation. The OBRA89 default formula was used to determine the final performance standards for 1992 and 1993.

Conversion Factor Updates. The VPS mechanism was used for the first time in determining fee updates for 1992. Both the Secretary and Commission recommended following the OBRA89 default formula for the update. The expenditure increase for 1990 was 10.6 percent, which exceeded the final standard of 9.1 percent by 1.5 percentage points. This difference was subtracted from the MEI (4.1 percent), as was an additional 0.4 percentage points mandated by OBRA90, to obtain an update of 2.2 percent.

Since the Congress did not act, the default formula also determined the actual update factor. Reestimates of expenditure growth and the MEI resulted in a final update of 1.9 percent (HCFA 1991).^{9,10}

Separate updates for surgical and nonsurgical services were made for the first time for 1993. As with the 1992 update, both the Secretary and the Commission recommended that updates should be determined by the OBRA89 default formula. Differences in the surgical and nonsurgical performance standards as well as actual growth rates yielded recommended updates of 2.6 percent for surgical services and 0.9 percent for nonsurgical services. Concerns about the effects of differential updates on the RVS led the Commission also to recommend that these updates be in effect for only one year. The baseline rate of expenditure growth, upon which future performance standards are based, would then contain the effects of an average update for all services.

⁹ Reestimation of expenditure growth is necessary to account for the effects of additional claims that are received by HCFA during the time between when the Secretary and the Commission make their recommendations and when the final standards are published in the *Federal Register*.

¹⁰ As noted earlier, the MEI is based on changes in physician practice costs and general earnings between July and June of the previous year. For example, the 1993 MEI reflects the experience between July 1991 and June 1992. The Secretary's and the Commission's recommendations are based upon projections of the MEI because they must be made before the end of this time period.

Once again, the Congress did not act, resulting in the updates being determined by the default formula. Changes in how the MEI was calculated resulted in final updates of 3.1 percent for surgical services and 0.8 percent for nonsurgical services (HCFA 1992).¹¹

Issues

Since the setting of the first performance standard for fiscal year 1990, a number of issues have arisen. These issues concern both the accuracy of the information used to set the standards and the design of the current system.

Performance Standard Accuracy. The Commission has raised several concerns about the accuracy of the performance standards (PPRC 1992a). On a general level, the Commission has been concerned about imprecision of assumptions made by the Medicare Actuary concerning behavioral responses to fee reductions. These assumptions are explicitly incorporated into the law and regulation component of the performance standards.

Empirical analyses of the effects of payment rate reductions under OBRA87, OBRA89, and OBRA90 have yielded a wide range of estimated behavioral responses that differ from the assumptions used by the Actuary (for a more detailed discussion of these analyses, see Chapter 6). For example, 60 percent of the OBRA90 nonsurgical service payment rate reductions were offset by volume increases, whereas only 17 percent of surgical service payment rate reductions were offset. These estimates indicate the inherent difficulties in characterizing how physicians respond to policy changes. Inaccuracies in accounting for physicians' responses may result in inappropriately higher or lower standards, which, in turn, would yield updates that incorrectly reflected the actions of physicians.

On a specific level, the Commission has been concerned with how a multiple standard system may exacerbate imprecisions in the performance standard setting process. For example, even if assumptions used by the Actuary were accurate in reflecting physicians' responses to payment rate reductions on the whole, these assumptions may not be reflective of physicians' responses at the subnational level.

Accuracy in setting the performance standards depends on the ability to correctly measure the factors upon which they are based. While measurement of some factors, like growth in the Medicare population, is relatively straightforward, the inability to accurately measure some of the other factors concerns the Commission. In accordance with OBRA89, performance standards should take into account factors that are difficult to measure such as the effects of new technology, appropriateness of care, and changes in beneficiary access to care.

¹¹ In 1992, the methodology used to calculate the MEI was revised. This was the first major revision of the MEI since June 1975.

Estimates of the share of cost increases attributable to technological change have considerable variation — ranging from 12 percent to more than 50 percent (Lee 1991; Newhouse 1992; OTA 1984). The Commission's own analyses on the share of volume growth attributable to new technology have produced estimates of 12 percent to 14 percent (PPRC 1990; PPRC 1991; PPRC 1992a). These estimates, however, are conservative in that they reflect only the share of volume growth that can be directly attributed to technological change. They do not account for new applications of existing technologies or increased utilization of existing procedures due to the introduction of new technologies. Explicitly accounting for these and other indirect effects would likely result in estimates that are more consistent with those obtained by other researchers.

Estimates of the incidence of inappropriate care are equally imprecise and difficult to improve at this juncture. A review of the empirical literature on the incidence of inappropriate care found estimates on the percentage of services provided in a given year that were deemed inappropriate ranging from 13 percent to 60 percent for certain procedures (PPRC 1990). Even if better estimates were currently available, it is difficult to translate them into an explicit component of the performance standards.

Finally, both the Commission and the Health Care Financing Administration (HCFA) are in the preliminary stages of developing indicators for measuring changes in beneficiary access to care due to payment reform (PPRC 1992b). It may be a number of years before changes in access can be reliably detected.

To the degree that affordability continues to be judged as the primary criterion for setting the performance standards, the inability to measure these factors may be less important. If, for example, the Commission's analyses were able to measure precisely the share of growth due to new and diffusing technology, it does not mean that full allowance for technology-driven growth would, or should, be made. Other factors, such as how much technology-based growth is necessary or affordable, will have to be taken into consideration.

Single Versus Multiple Updates. OBRA89 permits the Secretary to make conversion factor update recommendations for up to five categories of services. In addition, OBRA89 called for the Secretary and the Commission to make recommendations for separate performance standards for surgical and nonsurgical services. These performance standards, in turn, could result in separate and different updates in the conversion factors for these two categories of services.

The Commission has been opposed to multiple performance standards and conversion factor updates because separate standards give rise to the possibility of distorting the relative payment rates established by the Medicare Fee Schedule. Distortions would be created by differential conversion factors affecting the baselines used to set performance standards in future years.

These distortions may adversely affect incentives for more effective medical practice. For example, one of the goals of payment reform was to encourage provision of more primary care services through increasing relative payment rates. Higher surgical service updates could offset a significant portion of these changes in relative values.

In order to prevent this from occurring, the Commission has recommended that, if the Congress retains multiple standards, then differential updates should only be in effect for a single year and not be incorporated into the baseline for determining conversion factor updates in future years (PPRC 1992a). While the Commission continues to support use of a single performance standard, its concerns about the effects of the current policy on evaluation and management (EM) services lead it to recommend adding a separate standard and update for EM services (see Chapter 13).

Incentives to Control Volume Growth. Concerns have been raised about whether the current VPS system provides strong enough incentives for the physician community to act collectively to control volume growth (Holahan and Zuckerman 1991; Marquis and Kominski 1992; Rice and Bernstein 1990). The current VPS consists of two performance standards that cover all Medicare physicians' services provided nationally. Geographic differences in practice patterns and the limited ability of national physician organizations to influence individual physicians make it difficult to undertake efforts to control volume growth and detect instances where physicians are not responding to these efforts.

In addition, approximately 15 months lapse before expenditure growth during the performance period is translated into conversion factor updates. This lengthy delay between action and reward may also dilute incentives for collective action.

Because of concern about the long-term effectiveness of the VPS in controlling the growth of services, the Commission has examined a number of policy options for strengthening the collective incentive mechanism. These options are discussed in Chapter 13.

PRELIMINARY ASSESSMENT OF EFFORTS TO CONTROL VOLUME GROWTH

The test of the VPS's effectiveness is how well it controls expenditure and volume growth. The Commission has examined a combination of quantitative and qualitative information to assess this. Due to the absence of an appropriate comparison group and the effects of other policy changes that have occurred since the VPS was implemented, however, the Commission cannot draw any definitive conclusions at this time from the quantitative evidence.

The qualitative evidence is equally mixed. Increasing numbers of specialty societies and other medical organizations are involved in the development of practice guidelines, analysis of practice patterns, and other activities to facilitate reductions in inappropriate services. On the other hand, according to a recent Commission survey of physicians, the

overwhelming majority were not familiar with the VPS (see Chapter 6). The Commission will continue to collect information so it can undertake a more complete assessment in the future.

1989-1992 Expenditure and Volume Growth Rates

Comparisons of expenditure growth rates to the performance standards for 1990 and 1991 indicate that, except for surgical services for 1991, none of the performance standards has been met (Table 12-2).¹² The overall standards were exceeded by 0.9 and 1.3 percentage points in 1990 and 1991, respectively. But since subsequent updates were reduced by these amounts, budgetary objectives were ultimately achieved two years later.

Table 12-2. Volume performance standards and expenditure growth by service category, 1986-1992

Percent

Period	All Services		Surgical		Nonsurgical	
	VPS	Expenditures	VPS	Expenditures	VPS	Expenditures
Calendar 1986-89	...	11.9	...	10.2	...	12.7
FY 1990	9.1	10.0	...	6.5	...	10.5
FY 1991	7.3	8.6	3.3	2.9	8.6	10.5
FY 1992 (preliminary)	10.0	6.0	6.5	0.6	11.2	8.5

...indicates that data are not available.

Source. 1986-1989 trend and 1990 surgical and nonsurgical growth rates are based on Commission analysis of BMAD-I data. All other statistics are as published in the *Federal Register* or otherwise released by the Secretary of HHS.

These data also illustrate that the rate of growth in expenditures has been slowing in recent years. Relative to historical trend growth rates from 1986 to 1989, growth in expenditures for all services was 3.3 percentage points lower in 1991 and, based on preliminary estimates, 5.9 percentage points lower in 1992.

Comparisons of volume growth rates for the years 1989-1992 relative to 1986-1989 shed little light on changes in volume growth since the beginning of the VPS (Table 12-3).

¹² It should be noted that the 1986-1989 historical trend statistics and the 1990-1991 performance year data are not exactly comparable. Both sets of statistics are derived from the same data source (i.e., the BMAD-I). The 1986-1989 statistics are based on calendar year data whereas the 1990-1991 are fiscal year. In addition, the 1990-1991 statistics reflect adjustments by the Actuary to the BMAD-I data.

Estimates for 1990-1991, the most recent years for which complete data are available, indicate about a 2 percentage point increase in growth in the volume of services relative to historical trend. Partial year estimates for 1992, however, indicate volume growth below the historical trend rate.

Table 12-3. Growth in volume of services, 1986-1992
Percent

Service	Annual average 1986-89	1989-90	1990-91	1991-92
All services	9.4	9.4	11.6	6.6
Nonsurgical services	10.0	10.3	12.3	6.9
Surgical services	7.9	7.3	9.8	6.5

Source. Commission analysis of BMAD-I data for 1986-1991 and National Claims History data for 1991-1992.

Even if these data did indicate an increase or decrease in volume since the introduction of the VPS, it would be wrong to attribute these changes to the VPS policy. To fully assess the effects of the VPS, one would have to know how fast volume would have grown in its absence. The comparison group required to provide this information does not exist. As data from private and other public payers become available, however, the ability to assess the VPS will be enhanced.

In addition, behavioral responses to the OBRA89 and OBRA90 payment rate reductions may have overshadowed any VPS-induced reductions in volume growth (see Chapter 6). The Commission's work on behavioral offsets indicates, for example, that 1.2 percentage points of the 11.6 percent volume increase in 1991 may have been in response to the OBRA90 payment rate cuts.¹³ Therefore, in the absence of these cuts, volume growth may have been less — perhaps even less than in previous years.

Physician Initiatives

Because it is premature to draw any conclusions from the available quantitative data, qualitative analysis of physician initiatives might provide some insight on whether the VPS has fostered collective activities to control volume growth.

The Commission is aware of the ongoing activities of medical specialty societies in developing practice guidelines and educational programs to promote more appropriate care.

¹³ This is based on an estimated average behavioral response of 35 percent and estimated payment rate reductions of 3.5 percent between 1990 and 1991.

Many organizations distribute practice guidelines to provide physicians with current treatment information and to develop a professional consensus on appropriate treatment. These guidelines may be procedure specific, such as those used by the American College of Physicians, or disease specific, like the clinical policies written by the American Academy of Orthopaedic Surgeons and the American Academy of Ophthalmology.

Guideline development is generally based on literature reviews or other organized studies. For example, the American College of Cardiology has established a database system that is used by approximately 100 hospitals to collect information on three cardiac procedures. Outcomes data that physicians collect locally will be compiled through a data harvest to allow for comparison on a national level. Organizers hope that this will provide important feedback for the development of guidelines. Additionally, the American Urological Association is piloting a five-year prospective outcome study to investigate and compare treatment options for specific conditions. Finally, the American Medical Association, through its Specialty Society Practice Parameters Forum and Specialty Society Practice Parameters Partnership, has served as a coordinating body to consider the interests of numerous medical specialty societies in establishing practice guidelines.

In addition, some groups are becoming more involved in using claims data to identify large variations in expenditures and practice patterns. The American College of Surgeons is analyzing the frequencies of procedures to determine what is driving volume and why there are differences from state to state.

Work is also being performed on the state level. The Maine Medical Assessment Foundation has been documenting practice variations and making this information available to physicians. Programs are under way in Iowa, Maryland, and Vermont to provide guideline information to physicians. Some of these activities may have been encouraged by the VPS.

An additional source of information on the effects of physician initiatives was provided through a 1992 survey of 1,000 physicians conducted for the Commission by Louis Harris and Associates.¹⁴ One part of the survey focused on the VPS. The results indicate that only 18 percent of the physicians surveyed thought they had an adequate understanding of the VPS.¹⁵ About 41 percent of physicians reported that they had been informed by either specialty societies or other medical organizations about activities to help them respond to the performance standards. Of the 18 percent reporting an adequate understanding, 60 percent received some information to facilitate their response to the performance standards.

¹⁴ See Chapter 6 for a summary of physicians' responses to a broader range of questions about both Medicare and the practice of medicine.

¹⁵ Procedurally oriented nonsurgeons had the best understanding with 28 percent indicating that they had an adequate understanding. Only 15 percent of nonprocedurally oriented nonsurgeons thought they understood the VPS.

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REFINING VOLUME PERFORMANCE STANDARDS

This chapter discusses three possible refinements to the Volume Performance Standard (VPS) system:

- state-level performance standards and conversion factor updates,
- a separate performance standard and conversion factor update for evaluation and management (EM) services, and
- a shorter time between conversion factor updates and the performance standards upon which they are based.

RECOMMENDATION

The Health Care Financing Administration should be granted specific authority to conduct demonstrations of Volume Performance Standards at the state level. These demonstrations should be used to assess the feasibility of a state-level system and to determine whether the medical profession would engage in additional activities to control volume growth under such a system.

The Commission continues to favor returning to a single update that applies to all services. If, however, the current policy of separate updates for surgical and nonsurgical services is maintained, then a third performance standard and update, covering all evaluation and management services, should be established.

After reviewing options for shortening the update process, the Commission concluded that their limitations exceeded their benefits. Thus, it proposes no change in the timing of the update process at this point.

STATE-LEVEL SYSTEMS

In the past, the Commission has chosen not to endorse subnational VPSs, largely because they would necessarily distort relative payments away from relative costs (PPRC 1992b). For example, a state-level VPS would eventually change the pattern of relative payments across

states, moving it away from the geographic adjustment factors (GAFs). Similarly, the existing surgical and nonsurgical standards will lead to a departure from the resource-based relative values.

Nevertheless, there are two major reasons for moving toward state-based performance standards.¹ First, reducing the size of the geographic area might strengthen the incentives for volume control. Considerable effort has been devoted toward the development of tools, such as practice guidelines and outcomes research, to reduce the volume of unnecessary services (PPRC 1992a). To be most effective, physicians must be given the opportunity to use these tools in an environment that they are both familiar with and willing to work within to control volume growth.

At the state level, an infrastructure potentially exists to provide physicians such an environment. This includes both an administrative infrastructure for peer review (through the Medicare carriers and peer review organizations, or PROs) and a professional infrastructure (including state medical societies and chapters of specialty societies) that could serve as channels to influence physician behavior. The Maine Medical Assessment Foundation, for example, has been able to influence practice patterns in Maine by providing physicians with information on variations in practice within the state and convening them to discuss potential practice issues raised by the data. Other state-level initiatives also illustrate how state-level organizations may be better able to facilitate these activities (see Chapter 12).

Second, a state-level system has the potential to place additional pressure to control volume growth on physicians in states with high rates of expenditure per enrollee. By placing the greatest pressure on physicians in states with the most opportunities for reducing inappropriate care, more might be accomplished.

Despite these reasons, the Commission believes that movement to a full state-level system would be premature at this time. The updates for 1993 represent only the second time that payment rates have been revised by the VPS process. Moving to a state-level system may be a complex undertaking. The Commission believes that more experience with physician responses to VPS incentives should be accumulated before making a decision to go to a full state-level system.

At the same time, the Commission believes that a substantial amount can be learned through a limited number of demonstrations. Physicians in states with well-developed infrastructures, or states that are interested in developing their infrastructures more fully, may be able to do

¹ Group carve-outs and medical staff systems were considered by the Commission as alternatives to a state-level system. A group carve-out would permit groups of physicians, such as large group practices, to be subject to their own performance standards and then receive their own updates. A medical staff system would link updates at the hospital medical staff level to per-admission expenditures. Both of these systems pose considerable implementation difficulties and thus appear to have less potential than a state-level approach.

better in controlling volume growth under a state-level system than a national system. Demonstrations would provide these states the opportunity to develop and use their infrastructures to control the rate of volume growth and, in turn, receive higher updates. In addition, demonstrations would afford the opportunity to assess both the overall feasibility of a state-level system and how it would affect incentives to control volume growth.

A number of issues would have to be considered in designing and implementing a demonstration of a state-level system. These include policy-related design considerations such as whether updates should be related to a single national standard or individual state-specific standards, and technical implementation issues such as how to adjust for large intertemporal variation in expenditures.

Setting the Performance Standards

A fundamental issue that must be resolved with setting standards under a state-level system is how to accommodate across-state differences in the volume of services per enrollee. There is considerable variation across states in terms of both levels of expenditures per enrollee and rates of growth in expenditures. For example, in 1991 expenditures per enrollee ranged from \$454 for Wyoming up to \$1,389 for Florida, whereas between 1990 and 1991, expenditure growth per enrollee ranged from -2 percent for New Mexico up to 21 percent for Nebraska (Table 13-1). Moving to a state-level system would require that these differences be addressed.

Two extreme approaches would consist of giving each state (1) the same expenditures per enrollee performance standard or (2) the same performance standard rate of increase. Under the former approach, updates would be determined by comparing state-level expenditures per enrollee to national-level expenditures per enrollee. Under the latter approach, updates would be determined by comparing state-level expenditure growth rates to national growth.

Each of these approaches would have significant problems. Giving each state the same expenditure level performance standard would result in immediate cuts in payment rates for areas with expenditure levels in excess of the standard. Without knowledge of whether these higher levels are justified by local needs (such as higher morbidity and mortality rates), this approach could result in gross inequities.² In addition, the potential magnitude of some of these cuts might eliminate the credibility of the VPS as an incentive structure to provide more efficient care.³

² Risk adjusting would not significantly alter these distributions. Adjusting expenditures per beneficiary for 1990 by the average adjusted per capita cost indicated that at most expenditures would be changed by 4.8 percent. For most states, changes were in the 1 percent to 2 percent range.

³ It would be possible to limit the magnitude of payment reductions. This, however, would still eliminate any incentive to control volume for physicians in those states outside these limits. Unless these physicians were capable of making very large and rapid reductions in volume growth, they would receive the same payment rate reduction for moderate efforts to control volume growth as they would for not undertaking any efforts at all.

Table 13-1. Expenditures per enrollee, by state, 1991^a

State	Expenditures 1991 (dollars)	Percent increase 1990-91
Alabama	915	9
Alaska	744	-2
Arizona	1033	-1
Arkansas	843	0
California	1107	2
Colorado	675	5
Connecticut	1144	8
Delaware	930	7
Florida	1389	2
Georgia	961	3
Hawaii	670	0
Idaho	570	6
Illinois	888	12
Indiana	786	2
Iowa	671	9
Kansas	663	15
Kentucky	849	5
Louisiana	1024	-2
Maine	696	4
Maryland	825	6
Massachusetts	980	5
Michigan	1058	5
Minnesota	601	3
Mississippi	709	1
Missouri	976	6
Montana	653	16
Nebraska	765	21
Nevada	1291	2
New Hampshire and Vermont	669	4
New Jersey	1178	11
New Mexico	671	-2
New York	1125	6
North Carolina	831	12
North Dakota and South Dakota	808	5
Ohio	951	8
Oklahoma	777	2
Oregon	622	3
Pennsylvania	1134	7
Rhode Island	932	4
South Carolina	650	6
Tennessee	930	2
Texas	1053	-2
Utah	645	4
Virginia	729	7
Washington	821	2
West Virginia	715	3
Wisconsin	740	6
Wyoming	454	2
Total	997	4

^aThese estimates may differ from those reported by others due to differences in data editing and estimated enrollee growth rates.

Source. Commission analysis of the BMAD-I files for 1990-91 and the Area Resource File.

Inequitable outcomes could also occur under an approach where each state received the same performance standard rate of increase. Some states with above-average growth rates also have below-average expenditures per enrollee.⁴ These below-average expenditure levels may reflect the effects of past access problems. The higher growth rates may reflect the effects of actions to reduce these problems. Under a rate-of-growth approach, however, these states would receive below-average updates that would in effect penalize, instead of reward, them for their efforts to increase access.

The Commission believes that an approach that contains elements of both of the above methods should be used to set performance standards under a state-level system. State performance standards based on a rate of growth would be determined as a function of the distance between state risk-adjusted expenditure levels per enrollee and expenditures per enrollee at the national level. States with risk-adjusted expenditures per enrollee above the national average would receive performance standards below the national standard. Conversely, states with risk-adjusted expenditures per enrollee below the national average would receive performance standard rates of increase above the national standard. For example, if the national standard were 10 percent and national average expenditures per enrollee were \$1,000, then a state with risk-adjusted expenditures per enrollee of \$1,200 might receive a performance standard of 8 percent.

Implementation of this approach requires calibration on two dimensions. The first involves specification of the formula for determining how much a state's performance standards should exceed or be less than the national standards. The simplest would be a linear relationship; for every increment that a state's expenditures per enrollee differed from the national average, it would get a proportional adjustment in its performance standard.⁵

The second dimension concerns specifying the actual value of the proportional adjustment factor(s). The higher the adjustment factor(s), the more sensitive the state standards would be to the distance from the national average.

Updating the Conversion Factors

Under a state-level system, updates would be determined by comparing state-specific performance standards with expenditure growth. Instability of state-level expenditures from year to year and potential changes in expenditure growth due to enrollee border crossing are concerns that have been raised about updating the conversion factors.

⁴ Kansas, Montana, and Nebraska provide three examples of this situation (Table 13-1).

⁵ Mathematically, this approach is expressed as $S_i = S_N + a(EN - E_i)$, where S_i and S_N are the performance standards for state i and the nation, respectively. E denotes expenditures per beneficiary and a is the adjustment fraction. More complex relationships (e.g., quadratic or logarithmic) could be used to provide disproportionately higher (or lower) standards for states farther away from the national average.

Even though data instability may pose some problems, there are options to reduce its effects. The Commission does not believe that border crossing poses a serious problem for a state-level system.

Data Stability. Past Commission analyses of state-level systems have found evidence of large fluctuations in year-to-year expenditures (PPRC 1990). Recent analysis confirms this. For most states, the rate of expenditure growth varied considerably between years (Table 13-2). Those states with above-average growth in expenditures per enrollee in one year tended to experience below-average growth in the next. Even though some of this variation may be the result of data reporting problems, it is equally likely that some of it reflects real differences in expenditures over time. This illustrates that there could be large variations in updates on a year-to-year basis. Even if the standards were based on the most accurate information available at the time, random events during the performance year could lead to large differences between the performance standards and actual expenditure growth. These differences, in turn, would result in large variations in updates.

One possible method to dampen these variations would be to establish an update mechanism similar to the one used to set the standards. Under this approach, national and preliminary state updates would be calculated according to the default formula specified under the Omnibus Budget Reconciliation Act of 1989 (OBRA89). Next, state updates would be compared to the national update. All states with preliminary updates that were higher (or lower) than the national update would receive the national update plus (or minus) some proportion of the amount that the preliminary updates exceeded (or were less than) the national update. For example, assume that the national update is 5 percent and that the adjustment proportion is 50 percent. In this instance a state with a preliminary update of 10 percent would receive an actual update of 7.5 percent — 5 percent for the national update and 2.5 percent for 50 percent of the amount exceeding the national update (5 percent).

A second possible solution to this problem would be to extend the length of the performance period to 18 months or 24 months. This would not necessarily mean that conversion factors would be updated less frequently. Instead, an annual update based on a rolling two-year performance period could be used. For example, the 1993 updates would have been based on a 1989-1991 performance period, and the 1994 updates would be based on a 1990-1992 performance period.

Recalculating expenditure and volume growth rates on a two-year basis indicates that a rolling two-year cycle does result in reductions in intertemporal variation (Table 13-3). For example, under a one-year cycle, the range in expenditure growth rates for Pennsylvania (one of the more volatile states) was from -11 percent to 30 percent. Under a two-year cycle, this range would be reduced to between 5 percent and 16 percent.

Border Crossing. Border crossing in and of itself does not necessarily present an issue for subnational systems. If a constant share of services is provided to beneficiaries in jurisdictions other than where they live, then this could be factored into the standards. Border

Table 13-2. Percent increase in expenditures per enrollee, by state, 1986-1991^a

State	1986-87	1987-88	1988-89	1989-90	1990-91	Average annual increase 1986-91
Alabama	21	8	2	8	9	9
Alaska	12	1	7	3	-2	4
Arizona	14	10	6	3	-1	6
Arkansas	14	12	8	8	0	8
California	8	4	2	2	2	4
Colorado	n.a.	4	8	6	5	6
Connecticut	15	13	5	18	8	12
Delaware	18	13	6	1	7	9
Florida	n.a.	14	8	8	2	8
Georgia	20	6	12	7	3	9
Hawaii	-6	3	4	2	0	0
Idaho	16	7	4	5	6	8
Illinois	n.a.	8	10	-1	12	7
Indiana	n.a.	6	10	7	2	6
Iowa	11	17	6	4	9	9
Kansas	18	17	11	10	15	14
Kentucky	20	14	9	9	5	11
Louisiana	18	13	9	6	-2	9
Maine	21	10	5	6	4	9
Maryland	15	5	9	7	6	8
Massachusetts	11	12	2	7	5	7
Michigan	9	12	4	6	5	7
Minnesota	-2	15	24	3	3	8
Mississippi	14	12	5	8	1	8
Missouri	11	7	7	7	6	8
Montana	13	8	3	-3	16	7
Nebraska	17	-11	18	16	21	12
Nevada	15	11	13	5	2	9
New Hampshire and Vermont	15	10	8	4	4	8
New Jersey	13	4	18	7	11	10
New Mexico	12	11	5	2	-2	6
New York	13	8	-0	9	5	7
North Carolina	17	1	15	7	12	10
North Dakota and South Dakota	19	7	5	9	5	9
Ohio	19	11	4	4	8	9
Oklahoma	18	11	6	4	2	8
Oregon	4	4	6	2	3	4
Pennsylvania	28	-11	30	4	7	10
Rhode Island	4	12	n.a.	n.a.	4	6
South Carolina	17	25	1	10	6	12
Tennessee	15	12	10	8	2	9
Texas	23	9	7	4	-2	8
Utah	14	7	4	1	4	6
Virginia	12	9	7	12	7	9
Washington	15	7	3	2	2	6
West Virginia	21	10	3	8	3	9
Wisconsin	12	9	6	5	6	7
Wyoming	11	15	8	7	2	8
Total	13	7	8	6	4	8

n.a. Increases could not be calculated because of incomplete data on coding inconsistencies.

^aThese estimates may differ from those reported by others due to differences in data editing and estimated enrollee growth rates.

Source. Based on Commission analysis of BMAD-I files for 1986-91.

Table 13-3. Percent increase in expenditures per enrollee, by state, two-year rolling average, 1986-1991^a

State	1986-88	1987-89	1988-90	1989-91	Annual average 1986-91
Alabama	14	5	5	9	9
Alaska	7	4	5	0	4
Arizona	12	8	5	1	6
Arkansas	13	10	8	4	8
California	6	3	2	2	4
Colorado	n.a.	6	7	5	6
Connecticut	14	9	11	13	12
Delaware	16	10	4	4	9
Florida	n.a.	11	8	5	8
Georgia	13	7	9	5	9
Hawaii	-2	3	3	1	0
Idaho	11	6	5	6	8
Illinois	n.a.	9	4	5	7
Indiana	n.a.	8	9	4	6
Iowa	14	11	5	6	9
Kansas	17	14	11	13	14
Kentucky	17	12	9	7	11
Louisiana	16	11	6	2	9
Maine	15	7	5	5	9
Maryland	10	7	8	6	8
Massachusetts	12	7	5	6	7
Michigan	10	8	5	6	7
Minnesota	6	19	13	3	8
Mississippi	13	8	7	5	8
Missouri	9	7	7	6	8
Montana	10	6	0	6	7
Nebraska	2	3	17	19	12
Nevada	13	12	9	4	9
New Hampshire and Vermont	12	9	6	4	8
New Jersey	8	11	12	9	10
New Mexico	12	8	4	0	6
New York	10	4	5	8	7
North Carolina	8	7	11	10	10
North Dakota and South Dakota	13	6	7	7	9
Ohio	15	8	4	6	9
Oklahoma	15	9	5	3	8
Oregon	4	5	4	2	4
Pennsylvania	7	8	16	5	10
Rhode Island	8	n.a.	n.a.	n.a.	6
South Carolina	21	13	6	8	12
Tennessee	13	11	9	5	9
Texas	16	8	6	1	8
Utah	11	6	2	2	6
Virginia	10	8	9	9	9
Washington	11	5	2	2	6
West Virginia	16	7	5	5	9
Wisconsin	10	7	6	5	7
Wyoming	13	11	7	4	8
Total	10	7	7	5	8

n.a. Increases could not be calculated because of incomplete data or coding inconsistencies.

^aThese may differ from those reported by others due to differences in data source and estimated enrollee growth rates.

Source. Based on Commission analysis of BMAD-I files for 1986-91.

crossing only becomes an issue when the proportion of services provided to nonresidents is significant and there is variation over time in the size of this proportion.

A review of the empirical evidence indicates that border crossing would not present significant problems for a state-level system. At the state level, the empirical evidence indicates that there is little border crossing. The only instances of significant cross-state border crossing are when a major metropolitan area is either adjacent to a state border or split between two states (e.g., Kansas City). In addition, none of the empirical evidence indicates year-to-year variation in the share of services provided to nonresident beneficiaries at the state level.⁶

TYPE-OF-SERVICE BASED SYSTEMS

In 1992, the Commission recommended against the continuation of separate surgical and nonsurgical standards (PPRC 1992b). This recommendation was based on both technical and conceptual difficulties with setting separate standards. The technical difficulties concern how to measure accurately physicians' responses to changes in law and how to define accurately separate baseline trends. The conceptual difficulty is that separate standards might create disincentives for specialty societies to consider substituting services that would affect volume under their VPS in developing practice guidelines or other methods to improve medical practice. Nevertheless, given the possibility that the Congress might maintain current policy, the Commission decided to assess the feasibility of adding a separate update for EM services to offset some of the potential adverse effects of separate surgical and nonsurgical updates.⁷

Rationale for a Separate Update for EM Services

Concerns about the effects of relatively low updates for EM services on the provision of these services and overall access to the health care system lie behind the recommendation for a separate update. Under current policies, two distinctly different groups of services (nonsurgical procedures and EM services), with very different rates of growth, are placed in the same performance standard category. Historically, EM services have experienced relatively lower growth in comparison to nonsurgical procedures. Though many are concerned more about procedures growing too fast than EM services doing so, when

⁶ Below the state level (e.g., the metropolitan statistical area or county) border crossing could be a significant problem. An analysis of Part B data for 1988 found that beneficiaries in small city/rural areas received 26 percent more services than were provided in those areas (Holahan and Zuckerman 1991). This study also found that border crossing was more prevalent for high-technology imaging and surgical procedures. Similar findings were reported for 1991 Medicare hospital admissions (Miller and Welch 1992). Neither of these studies, however, was able to determine if the incidence of border crossing was stable, or varied over time.

⁷ EM services include all visits and consultations.

combined, updates are determined by the average growth of both groups of services. The result could be EM services receiving a lower update than they would have under a separate EM performance standard.

Relatively lower updates would create incentives for physicians to substitute away from the provision of EM services into procedural services, which are relatively more profitable per unit of time. Given the key role EM services play in health care delivery, this could have far-reaching consequences. In most instances, visits provide the primary mechanism for gaining access to health care. Other services, such as endoscopies or more advanced imaging procedures, are provided after the beneficiary is in the system. Therefore, in this context, reducing payments for visits risks a larger overall impact on access than similar reductions in other services. In addition, visits traditionally have been provided disproportionately by primary care physicians. Making visits relatively less attractive could create long-run disincentives for entering primary care specialties.

How Would the Update Be Determined?

Of the two possible ways to determine an EM service update — within the VPS framework by establishing an EM-specific performance standard or through an approach independent of the VPS — the Commission recommends the former, even though there may be technical difficulties in determining it. The potentially adverse future consequences of breaking the link between payment rate updates and volume growth outweigh technical difficulties in setting the performance standard accurately. Under this approach, the update would be determined by comparing expenditure growth for EM services to an EM-specific performance standard, as is now done with the surgical and nonsurgical updates.

The primary advantage of determining the update within the VPS framework is that the broad incentives to control costs by reducing volume growth would apply to all services. Even though the current concern is that relatively not enough EM services are being provided, removing these services from the VPS would eliminate the incentive to minimize provision of inappropriate services.

The primary disadvantage of using the VPS framework to determine the update is the inherent difficulty in establishing a separate EM service baseline to set the standard. Given that EM services historically have had a lower rate of growth than other procedural services, it would be particularly important to establish an EM-specific baseline. Otherwise, the EM performance standard would be consistently higher than necessary, and updates for EM services would generally be higher than for other services, regardless of physicians' efforts to control those that are inappropriate.

But it is inherently difficult to determine separate baselines accurately. The Commission has noted the difficulties of estimating separate surgical and nonsurgical baselines in past VPS

reports. These difficulties may lead to the same controversies concerning the accuracy of the EM service performance standard that arose during the discussion for differential updates between surgical and nonsurgical services for 1993 (PPRC 1992b). Even so, the Commission believes that these difficulties pose fewer problems than those that would result from reducing incentives to control inappropriate services.

SPEEDING UPDATE ADJUSTMENTS

Speeding up the adjustment process is intended to strengthen both the budgetary mechanism and incentives for controlling volume growth. Shortening the time from the performance period to the updates would allow the Congress to achieve its budgetary goals more rapidly. Shortening this time would also allow physicians to receive more rapid feedback on how their effort (or lack of effort) to control volume growth has subsequently affected payment rate updates.

Under the current VPS system, the time from the end of the performance year to when the updates go into effect is about 15 months. The length of this cycle reflects the combined effects of lags in claims submission and the deliberative process used to determine the update values.

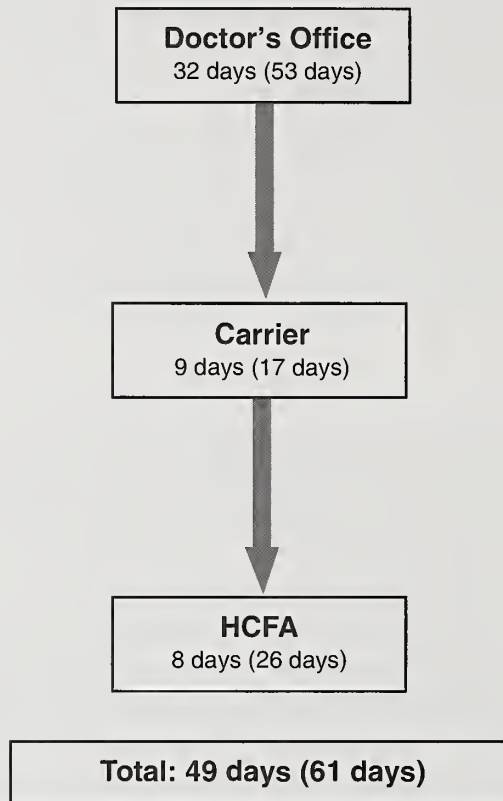
The components of the update cycle are best illustrated by the updates for 1993, which were recently published in the *Federal Register* (HCFA 1992). The 1991 performance year ended on September 30, 1991. By law, the Secretary's update recommendations were due on April 15, 1992 — approximately six and one-half months after the end of the performance year. The Commission's recommendations and review of the Secretary's recommendations were due on May 15 — seven and one-half months after the end of the performance year. The Congress had until the end of the legislative year to either determine the updates or allow them to be set by the default formula specified in OBRA89. The final calendar year 1993 updates were published in November — 14 months after the end of the performance year.

Almost half of the time required for the update cycle is to accommodate the lag between when services were provided and when the claims were received by the Health Care Financing Administration (HCFA). Analysis of Medicare claims data for 1991 illustrate that, on average, it takes about 49 days from when the service was provided to when HCFA receives a claim for it (Figure 13-1). The largest component of this lag is the time it takes for physicians to submit the claims to the Medicare carrier (32 days). These data also show that it could take approximately 110 days for 84 percent of the claims to be received by HCFA.⁸

⁸ This assumes that the length of time for each claim to reach HCFA is symmetrically distributed around the average time.

Figure 13-1. Lag between provision of service and recording into HCFA's data system, 1991

Average number of days and standard deviation



Source. Commission analysis of 1991 National Claims History Data.

Examination of the OBRA87 VPS *Quarterly Reports* confirms this analysis and provides a good illustration of the current claims run-out function (Table 13-4).⁹ On average, between fourth quarter 1990 (90:4) and first quarter 1992 (92:1) claims received one quarter after the quarter in which the service was provided increased reported expenditures for that quarter by 67 percent. Claims filed two quarters after the date of service added another 2 percentage points to these estimates.

Shortening the update cycle, quarterly VPSs, and payment withholds were considered by the Commission as alternative methods of accelerating the update process. Shortening the update cycle could be accomplished by several modifications to the VPS process. First,

⁹ The OBRA87 VPS *Quarterly Reports* are a series of statistical tabulations compiled quarterly by HCFA's Bureau of Data Management and Strategy. These tabulations summarize Part B expenditures by physician specialties and major categories of service.

Table 13-4. Cumulative increase in expenditures reported by number of quarters between provision of service and entry into HCFA data system
Percent

Quarter service provided	Quarters elapsed				
	1	2	3	4	5
1990:4	64	68	69	70	...
1991:1	83	88	89	90	91
1991:2	58	62	63	64	...
1991:3	58	62	63	...	...
1991:4	61	65	...	...	...
1992:1	76	...	...	...	...
1992:2	...	...	...	...	...
Average run-out	67	69	71	75	...

... indicates that data is not available.

Source. OBRA87 VPS *Quarterly Reports*.

the updates would be based on forecasted expenditure growth four months after the end of the performance year. Second, the updates would be determined initially by the OBRA89 default formula. This would be necessary for the updates to be determined and announced at least one month prior to the beginning of the update year for which they would apply. Starting with the second update after this modification, an adjustment factor would be added to the default formula. This factor would be used to accommodate the effects of (1) any differences between the forecasted and actual expenditure growth rates on the prior year's conversion factor updates, and (2) any adjustments by the Congress to the rates established by the default formula. These modifications would reduce from 15 months to 6 months the time period from the end of the performance year to when the updates take effect.

An alternative approach would be a system of quarterly VPSs. Quarterly VPSs would entail determining updates on the basis of three-month performance periods. They could be determined by formula (either the OBRA89 default or some derivative thereof) with annual review by the Congress.

Another alternative considered by the Commission was payment withholds. Payment withholds would require that HCFA retain a share of the payment until the end of the performance period. This amount would then be remitted to physicians based on how much expenditures increased relative to the performance standard. If expenditures increased less

than the performance standard, for example, the entire withhold would be returned and a bonus based on the size of this difference would be issued.

The Commission decided not to recommend any of these alternatives. Shortening the update cycle by requiring that the OBRA89 default formula be used to determine the updates would significantly alter the role played by the Congress — a key compromise that led to the VPS. Congressional action would be limited to an after-the-fact review. In addition, basing the updates on forecasted growth rates may introduce additional inaccuracy and uncertainty into the VPS process, with unknown effect on incentives.

Quarterly VPSs do not appear to be feasible due to quarter-to-quarter data stability problems and increased administrative complexity. On a quarterly basis, expenditure growth would be more sensitive to the effects of events outside of physicians' control (for example, flu epidemics). The administrative burden on HCFA and its carriers of updating conversion factors every 90 days might become considerable. Physicians would also face additional costs in terms of filing claims and uncertainty of future revenue.

Payment withholds may also be administratively costly and, more important, could create adverse consequences for beneficiary financial liability and access to care. Under a withhold system, physicians might balance bill more. At least initially, physicians might assume the worst concerning eventual return of withheld funds and base assignment decisions on an assumption of low payment rates. This perception could make Medicare patients less attractive and, if this perception were substantiated by initial experience with a withhold system, problems of access could be exacerbated. In addition, to make the system administratively feasible, beneficiaries would have to pay copayments for the total allowed charge at the time the services were billed, regardless of whether the full withhold was eventually remitted to physicians.

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PART V

IMPROVING ACCESS FOR MEDICAID BENEFICIARIES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

ENSURING QUALITY IN MEDICAID MANAGED CARE

Medicaid, a joint federal-state program, is the principal health insurer for approximately 28 million low-income Americans. Despite the success of the program, barriers to access to care for Medicaid beneficiaries remain. To improve access to care and help ensure quality for Medicaid beneficiaries, the Commission has recommended the use of a multipronged strategy that includes increasing physicians' fees and expanding the use of alternative service delivery mechanisms such as managed-care organizations. As noted in its *Annual Report to Congress 1992*, the Commission thought that wider use of managed care by Medicaid could be encouraged to improve access if suitable improvements in the quality assurance system were made. As described in this chapter, the Health Care Financing Administration (HCFA) has taken steps to ensure access to high-quality care.

Even though this chapter focuses on managed care, the Commission remains concerned that Medicaid fees remain too low to ensure satisfactory access. The Commission noted that access to mainstream medical care for Medicaid beneficiaries would remain elusive as long as physician fees paid by state Medicaid programs were substantially below those of Medicare and other payers. The Commission has endorsed raising Medicaid fees to Medicare levels (PPRC 1991).

Although several states have adopted fee schedules based on the Medicare Fee Schedule, their conversion factors are often lower than Medicare's (see Chapter 7). In those states without resource-based fee schedules, fees generally remain low compared to those paid by Medicare and private insurance. According to a Commission-sponsored survey, only 65 percent of physicians who are accepting new patients are taking new Medicaid patients. By contrast, 97 percent are accepting privately insured fee-for-service patients, and 93 percent are accepting fee-for-service Medicare patients (Louis Harris and Associates, Inc. 1993).¹ Although lower fees paid by Medicaid may not be the only factor affecting physician acceptance of Medicaid patients, low fees clearly disadvantage Medicaid beneficiaries who need physician services.

The Commission recognizes that adequate fees are critical to ensuring satisfactory access. But it has also noted that because factors other than fees affect physicians' willingness to participate in the Medicaid program, beneficiaries may remain underserved even if fees were increased to Medicare levels. This led the Commission to also consider other strategies as well, including managed care.

¹ For more information about this survey, see Chapter 6.

Risk-based managed care has the potential for improving access and quality of care for Medicaid beneficiaries. Well-run managed-care organizations can strengthen physician-patient relationships, guarantee access to providers, improve preventive care, and ensure the quality of care. The Commission is concerned, however, that incentives inherent in capitation arrangements may inappropriately reduce the number of services provided.

Previously, the Congress responded to similar concerns by establishing proxies to protect quality, including voluntary disenrollment with a one-month notice, a ceiling on the allowable proportion of risk-based members from Medicare and Medicaid, and favored treatment for those risk-based organizations meeting standards for federally qualified health maintenance organizations (HMOs).

Advances in quality assurance, if adopted by Medicaid programs, could more directly ensure quality and may allow for easing the application of these proxies. Taking advantage of these advances, HCFA has developed the Health Care Quality Improvement System (HCQIS) — quality assurance guidance for Medicaid risk-based managed care that is equivalent to some systems used in the private sector. In addition, HCFA will provide technical assistance to states to translate the guidance in HCQIS into practice.

As background, this chapter briefly reviews the Commission's concerns about the quality of care under Medicaid managed care. It describes and evaluates the Health Care Quality Improvement System. Finally, in light of the new quality assurance system for Medicaid, it concludes by discussing the Commission's recommendations for policy changes.

RECOMMENDATIONS

The Congress should amend the Medicaid statute to allow Section 1915(b) waivers of the enrollment composition rule for those states in full compliance with the Health Care Quality Improvement System.

The Congress should amend the Medicaid statute to allow Section 1915(b) waivers to restrict beneficiary disenrollment from state plan risk-based organizations for a six-month enrollment period in those states in full compliance with the Health Care Quality Improvement System. During the first month of the enrollment period, the beneficiary would have an unfettered right to terminate enrollment; for the remaining five months termination of enrollment in the organization for cause only would be allowed.

The Congress should amend the Medicaid statute to extend the Section 1915(b) waiver period to five years for those states in full compliance with the Health Care Quality Improvement System.

The Congress should amend the Medicaid statute to require the use of an enhanced quality assurance system for risk-based managed care by all Medicaid programs within five years. Such a system would include quality assurance standards for risk-based managed-care organizations that are equivalent to those used in the private sector, an enforceable federal monitoring plan to guarantee state oversight of the quality assurance standards, and national quality goals for specific targeted conditions or preventive health requirements such as pregnancy or childhood immunizations.

BACKGROUND

Although the expansion of managed care for Medicaid is an appealing policy option for states, especially those under fiscal stress, there are barriers against such expansion and innovation as well as disincentives for managed-care organizations to participate in the Medicaid program. The result has been that Medicaid beneficiaries use risk-based managed care less often than the general population.

Evaluation of Medicaid Managed Care

As explained more fully in the Commission's *Annual Report to Congress 1992*, advocates for expanding Medicaid managed care have argued that it has many benefits for beneficiaries and state governments. These include:

- improving access by providing an around-the-clock contact point for treatment,
- reducing unnecessary utilization,
- promoting continuity of care and strengthening the physician-patient relationship,
- improving preventive care, and
- reducing governmental expenditures.

Generally, studies indicate that Medicaid managed-care organizations provide care comparable to fee-for-service medicine at a slightly lower cost (PPRC 1992). Recent studies seem to confirm previous findings about the comparability of care (e.g., see Krieger et al. 1992). On the basis of an examination of Oregon's Medicaid managed-care program, the General Accounting Office concluded that with adequate safeguards, managed-care programs can improve access and quality (Shikles 1992).

Despite the advantages of managed care for Medicaid beneficiaries, there are concerns about access to needed services and the quality of services provided. The financial incentives in risk-based managed-care plans potentially could reduce the number of services beneficiaries receive. Further, lacking good quality assurance standards and responsible state oversight, some risk-based managed-care plans have not provided appropriate access, and the care delivered was of dubious quality. While these features may affect all populations enrolled in risk-based managed-care organizations, the danger of underservice may be greater for Medicaid beneficiaries because they may be less able to obtain care within the organization or elsewhere.

To protect its beneficiaries, Medicaid must have:

- effective federal oversight,
- active state monitoring of quality of care and access to care and the financial condition of risk-based plans, and
- federal regulation of arrangements used by some capitated health care organizations to share with physicians the risk for costs.

The Omnibus Budget Reconciliation Act of 1990 (OBRA90) disallowed the use of physician financial incentives above a certain threshold unless the HMO both provides adequate stop-loss protection and surveys current and previous enrollees to determine the degree of access and satisfaction with care.² HCFA's recently proposed regulations to implement these provisions may lessen concerns about physician financial incentives (HCFA 1992a). In addition, advances in quality assurance technology generate greater confidence that risk-based managed care can provide care of high quality to Medicaid beneficiaries.

The Health Care Quality Improvement System

In 1990 HCFA began an initiative to improve quality assurance processes and standards for those HMOs, prepaid health plans (PHPs), and health insuring organizations (HIOs) with Medicaid risk contracts. HCFA completed a significant milestone in this effort by producing a document that sets forth four essential components of the HCQIS (HCFA 1992b):

- a framework for a health care quality improvement system,
- guidelines for managed-care organizations' internal quality assurance programs,

² Stop-loss provisions protect the physician or group from experiencing a large loss, and so reduce financial incentives for underservice of the most severely ill patients.

- clinical and health service quality indicators, and
- guidelines for external quality review.

When finalized, this document will serve only as guidance for states' quality assurance programs because HCFA is reluctant to mandate any new Medicaid requirements. Because this document lacks regulatory authority, states can adopt it fully, in part, or not at all. If there is a desire to standardize Medicaid quality assurance policy across all states, the Congress could pass legislation to mandate the HCQIS for use by all Medicaid programs. Even though states will oppose any mandates, legislatively coupling a mandate on quality assurance with easing all or some current legislated quality assurance proxies for Medicaid managed care may make it more attractive.

Framework for the Quality Assurance System. The HCQIS includes the basic structure for the quality improvement system, defining the roles and responsibilities of HCFA, state Medicaid programs, managed-care organizations, and external quality review organizations as follows:

- HCFA is responsible for specifying guidelines, defining acceptable state monitoring, and overseeing state monitoring of organizations with risk contracts.
- State Medicaid programs directly monitor the quality assurance programs of risk-based organizations, and they may develop their own standards in addition to federal guidelines.
- Managed-care organizations with Medicaid risk contracts are directly responsible for monitoring and improving the quality of care.
- External quality review organizations (EQROs), organizations independent of the state government and the risk-based organization, conduct annual quality of care reviews of risk-based organizations for state Medicaid programs.

This framework for the HCQIS serves two purposes. First, it clarifies the roles of the involved parties, which formerly were implicit and unclear. Previously, for example, some HCFA regional offices directly monitored managed-care organizations instead of overseeing states' efforts to monitor them. Second, it sets out basic principles which are incorporated and elaborated in other HCFA documents, such as the program review guides that regional offices use to oversee state monitoring efforts.

Guidelines for Internal Quality Assurance Programs. Currently, all HMOs, PHPs, and HIOs with Medicaid risk contracts must have internal Quality Assurance Programs (QAPs). Prior to HCQIS, however, there were no federal Medicaid standards for these programs.

HCFA, through the HCQIS, fills this void by defining standards for internal QAPs for Medicaid. The governing body of the HMO, PHP or HIO is ultimately responsible for the program, delegating authority to an active quality assurance committee or other structure that reports to it. The governing body should approve the overall program and annual quality assurance plans, and review reports on program activities. In order to signal the importance of quality assurance, the guidelines call for a senior executive of the organization to be responsible for the quality assurance program.

According to the guidelines, risk-based health care organizations should have written program statements describing quality assurance goals and objectives, the scope and activities of the quality assurance system, and the process of quality assessment and improvement. The organization should communicate to enrollees policies on rights and responsibilities, benefits, after-hours coverage, referrals, the process to change primary providers, and procedures for complaints.

In addition, the guidelines state that the QAP should include a systematic process for quality assessment and a remedial process to address problems for all types of services provided to all enrollees in all settings. To accomplish this, the program should conduct quality of care studies, using measurable indicators to detect problems. It should monitor both clinical and delivery aspects of care (including examining individual cases where there are questions). Further, the program should include beneficiary satisfaction surveys with respondents sampled from all Medicaid enrollees, those Medicaid enrollees who switched primary providers or sites, and those Medicaid enrollees who disenrolled from the plan.

These health care organizations should have a credentialing process for the appointment of health care providers that obtains and verifies the following kinds of information:

- valid license,
- valid Drug Enforcement Agency certificate,
- work history,
- any sanctions imposed by Medicare or Medicaid,
- information from the National Practitioner Data Bank and State Board of Medical Examiners, and
- history of loss or limitation of privileges or disciplinary action.

In deciding whether to reappoint the health care provider, the organization should consider complaints, quality reviews, and the results of enrollee satisfaction surveys in addition to recertifying information from the initial appointment.

Clinical and Access Indicators. The HCQIS specifies approaches to and content of the quality of care studies that are of interest to Medicaid. Previously, although systematic data analyses of performance and patient outcomes were required, HCFA provided no guidance about the content and methodology for such studies. Using focused reviews and identifying areas of concern would be a significant advance for Medicaid.

HCFA identifies a list of 32 clinical priorities (e.g., childhood immunizations, pregnancy, diabetes, breast cancer/mammography, lead toxicity, and sickle cell anemia), and a list of six health service delivery priorities (e.g., access to care, coordination of care, and emergency services) for focused quality of care studies.

A focused study, which analyzes one clinical or delivery area, has distinct advantages over studies in which randomly selected medical files are examined for quality of care issues. Random studies may not identify enough instances of an event to draw scientifically valid conclusions. Further, those conclusions that can be made from random studies may address less important issues. By contrast, focused studies target important topics and, if necessary, provide a basis for remediation.

The HCQIS document calls for organizations with Medicaid risk contracts to conduct at least three focused studies annually, two of which should concern childhood immunizations and pregnancy. Suggested methodologies and clinical indicators for these studies are specified. The third study conducted could focus on an additional clinical or delivery topic from HCFA's priority list.³

The results of focused studies should be compared with standards or guidelines. Although the document does not specify which guidelines or standards are to be used, it does recommend that the ones chosen should be based on those developed by recognized authoritative bodies (such as specialty societies) based on scientific evidence.

The guidelines for study of childhood immunization illustrate a focused study. The risk-based organization would select a random sample of enrolled children who had their second birthday during the 12-month review period and who had been in the plan for six consecutive months. Then the organization would calculate immunization rates for polio, diphtheria-tetanus-pertussis, measles-mumps-rubella, hemophilus influenza B, and hepatitis B doses. Finally, the organization would compare the results with the guidelines set by organizations such as the American Academy of Pediatrics or the U.S. Public Health Service. If the organization did not meet the standards, it would take remedial action to meet them.

In addition to the two specific studies that should be conducted, some concise guidance for quality of care studies is also provided in this document. Studies should have well-defined

³ Examination of a different set of clinical or delivery topics each year ensures that over time a wide variety of clinical and access concerns would be addressed.

study questions, acceptable analytical methods to answer these, and standards with which to compare the organization's performance. More important, however, HCFA has contracted with the National Committee for Quality Assurance (NCQA) to develop a manual for conducting focused quality of care studies. The manual will provide hands-on information on how to conduct such studies.

The HCQIS initiative is designed to address the varying abilities of risk-based organizations to conduct quality review studies. A hands-on manual will help in this regard. Further, methodologies for other focused review studies will soon be available for any managed-care organization's use. One of the NCQA's task forces on revising the HMO Employer Data and Information Set (HEDIS), for instance, is developing measures of quality and methodologies for focused reviews in 10 clinical areas.⁴ Finally, for those organizations less able to conduct these studies, external reviews can be more extensive, providing backup to internal quality reviews.

Guidelines for External Quality Review. HCFA provides guidance about the role of external quality review organizations in the quality oversight process. Currently, quality of care reviews conducted by external quality review organizations are required annually for organizations with Medicaid risk contracts, but there is little federal guidance for this activity.

HCFA recommends that external quality review organizations complete two types of studies. First, they should review the internal studies conducted by the risk-based organization, and if these are unsatisfactory, perform focused review studies of their own. EQROs conducting their own focused review studies should choose topics from HCFA's recommended list. Study topics might be clinical responses to hypertension or diabetes, for example.

Second, external quality review organizations should conduct individual case reviews of occurrences of poor outcomes that are too infrequent for statistical analysis or of events that have serious effects such as death or disability. Examples include maternal deaths or deaths associated with ambulatory surgery. For individual case reviews, health professionals from EQROs should examine medical records and other relevant information to analyze the event and draw implications for quality assurance.

To improve care, both types of studies should be designed to allow for follow-up action, which the review organization would prescribe in written recommendations and a work plan. In the next external review cycle, the review organization would scrutinize any remedial action taken in response to deficiencies identified in the previous review.

⁴ These areas are cesarean section, adult cholesterol screening, diabetic retinal exam, glycosylated hemoglobin testing, asthma admission, prenatal care, mental health readmission and day-utilization, breast cancer screening rate, pediatric immunization compliance, and cervical cancer screening.

Quality Assurance Demonstrations

The Kaiser Family Foundation and HCFA have funded HCQIS state demonstration projects that the National Academy for State Health Policy (NASHP) will administer. HCFA will provide technical assistance to participating states. The foundation is also funding an evaluation of these demonstrations.

Demonstrations. Demonstrations of the new quality assurance system have several purposes. First, they provide information on the implementation of the HCQIS. Second, they will enable HCFA to decide whether the new quality assurance system actually ensures or improves quality of care. Third, these demonstrations will allow for refining the guidelines based on their actual use.

NASHP has selected Ohio, Minnesota, and Washington for two-year demonstration projects. These states will receive two types of support. Technical assistance will be provided by NASHP and Medicaid's Bureau of Coordinated Care. States will also receive funds to implement the new quality assurance system for activities such as hiring staff and consultants, training staff and providers, and redesigning data collection and analysis systems.

Evaluation of the Demonstrations. The Kaiser Family Foundation is funding Mathematica Policy Research, Inc. to evaluate the demonstrations. The evaluation is intended to examine two aspects of the new quality assurance system. First, it will focus on implementation and how the HCQIS demonstration projects operate. The following kinds of questions will be considered:

- How was the new system implemented?
- Does the system work differently in different states and in different settings?
- Does the new system identify problems and provide mechanisms to correct them?
- Can the system be sustained?

Mathematica will make recommendations for improvement based on the results.

Second, the evaluation will examine the impact of the HCQIS on health outcomes. How much the new system ensures or improves quality will be assessed, for instance. The evaluation will compare quality of care fee-for-service Medicaid in risk-based plans with and without the new system.

Assessment of the HCQIS

The Health Care Quality Improvement System for Medicaid is a positive development for several reasons. It provides more specificity to the internal quality assurance process where there were no federal standards before. It also clarifies the roles of the involved parties where previously the roles were only implicit, and it designates clinical areas of concern for reviews where there were none before. Finally, the system for the first time establishes guidelines for the external review process. Although the HCQIS is not mandatory, HCFA should be commended for the great strides it has made with this initiative.

Elements of an Effective Quality Assurance System. Last year the Commission set out criteria for an effective quality assurance system for Medicaid. The program should employ internal quality assurance processes and standards consistent with those used in the private sector. Federal health concerns should be reflected in quality reviews through the establishment of national quality assurance goals for specific targeted conditions or for preventive health. In addition to internal quality assurance programs, beneficiary protection requires grievance processes that allow for prompt and effective resolution of complaints. There should be effective state oversight of risk-based organizations' quality assurance programs, and an enforceable federal monitoring plan to guarantee state oversight. Finally, it is important to minimize the burdens on risk-based managed-care organizations by making the Medicaid quality assurance program as consistent as possible with that of other payers. The HCQIS moves toward these goals.

Internal Quality Assurance. The Commission recommends that risk-based organizations have the capacity to measure access to care and health outcomes, consistent with existing technology. The use of focused quality of care studies is state of the art for quality assurance programs. HCFA has contracted with the National Committee for Quality Assurance to develop a manual for conducting such quality of care studies. The manual will provide hands-on information on how to conduct focused studies, improving the ability of risk-based organizations to measure quality. Verification and reverification of specific practitioner credentials are stipulated. Finally, the board of directors of the risk-based organization has responsibility for the internal quality assurance program.

The guidelines for external quality review organizations provide further quality assurance protection. Currently, organizations with risk-based contracts are required to have an independent, external review of quality of care, but final regulations implementing this have not been published. By contrast, the Health Care Quality Improvement System specifies the process and content of external quality reviews. Although the new guidelines do not require federal approval of EQROs as the Commission suggested, HCFA recommends that these organizations have staff with clinical and health services research expertise.

While the HCQIS recommends that risk-based organizations have both grievance and remediation processes, the HCQIS lacks the specificity necessary to make judgments about

whether such efforts would be effective. HCFA's instructions to regional offices for oversight of state Medicaid programs contain specific implementation requirements, however. For example, regional offices must examine each contract to ensure that it provides for prompt resolution of complaints and informs beneficiaries of appeal rights. The regional offices must also review a sample of grievances to see if they were handled in an appropriate and timely fashion.

Federal Oversight and State Monitoring. The HCQIS, along with the instructions to regional offices, provides for federal oversight and effective state monitoring of managed-care organizations. The documents clearly place the responsibility for monitoring on the states, with federal oversight of the states' efforts. HCFA's instructions to regional offices provide further guidance for oversight of state monitoring efforts of internal quality assurance systems and for the external quality review of risk-based plans. In addition to examining contractual provisions for quality assurance, for example, regional office staff interview state staff about how they monitor internal quality assurance efforts, verify that this monitoring occurred, and review a sample of quality assurance reports submitted by risk-based plans to the state.

HCFA's technical assistance plans, including the development of a manual for states' monitoring of risk-based organizations, should ensure federal oversight and effective state monitoring. The agency's instructions to regional offices provide criteria for judging whether state plans and practices comply with federal law and regulations.

The voluntary nature of the HCQIS suggests that quality assurance processes and standards will vary from state to state. This permits states and plans that are at different stages of development in quality assurance to implement portions of the HCQIS as they have the capability. Further, it allows for development and modifications of the HCQIS based on the lessons learned from the demonstrations. Although its voluntary nature in the early development phase is desirable, in the Commission's view enforceable federal oversight can only occur with the implementation of these standards in all Medicaid programs.

National Goals. HCFA developed a list of critical services and conditions from which states can choose those to be monitored by risk-based plans. HCFA recommends that risk-based plans should monitor childhood immunizations and the provision of services to pregnant women as well as one other service or condition selected from HCFA's list. For monitoring pregnancy and childhood immunization services, risk-based plans should use guidelines developed by such organizations as the American Academy of Pediatrics, the Public Health Service, and the American College of Obstetricians and Gynecologists unless the organization can demonstrate that its guidelines comply with HCFA's intent.

State Grievance Process. The HCQIS provides for state-level grievance processes that should facilitate prompt and effective resolution of complaints. The HCQIS requires each state to have a grievance process, but provides no further guidance

because there are separate regulations governing grievance processes that apply to all aspects of the Medicaid program. HCFA's instructions to regional offices require a review of grievances appealed to the state to determine whether they were handled in an appropriate and timely fashion.

Consistency with Other Efforts. HCFA's quality assurance effort for organizations with Medicaid risk contracts is generally consistent with those of other government programs and the private sector. The development of Medicaid's internal quality assurance standards began with the standards of the NCQA, National Association of Insurance Commissioners and National Association of HMO Regulators, and HCFA's standards for Medicare.

Of course, the ultimate test of consistency will occur with the implementation of the HCQIS in specific states. The Medicaid demonstrations could provide valuable insights to modify the HCQIS to make it more consistent with those of state regulators or other payers.

The problems created by multiple reviews with various standards are due to a pluralistic system with many payers (both public and private) and multiple managed-care organizations. Although Medicaid can attempt to make its standards and processes as consistent as possible with other payers, this problem will remain. Health care reform may provide the opportunity for standardization among payers. One consideration in the development of health care reform might be the standardization of quality review structures and standards with one review (or review organization) for each risk-based plan or one quality of care regulator in each state.

Future Developments of the HCQIS. During the coming year HCFA will continue to improve and refine the HCQIS. First, it will provide regional offices and states with technical assistance. To this end, it will develop guidelines for states to use in monitoring risk-based managed-care organizations.⁵ Second, HCFA will address requirements for Early and Periodic Screening, Diagnosis, and Treatment services. Third, HCFA will develop a reviewer guide for the states to use in monitoring internal quality assurance programs concerning the routine collection of selected performance measures by risk-based organizations. Finally, HCFA will participate in the Kaiser Family Foundation demonstration and evaluation of the HCQIS in Ohio, Minnesota, and Washington.

The HCQIS must be a dynamic system that incorporates new developments in the quality assurance field. At this time, the system is predominately process-oriented. As quality assurance technology evolves, outcome measures should be incorporated by Medicaid in its quality assurance program.

⁵ A draft manual is being developed through a contract with the American Public Welfare Association with its completion expected in the near future.

DISCUSSION OF RECOMMENDATIONS

At various times, the Congress has responded to concerns about quality by establishing indirect quality criteria, such as voluntary disenrollment, rules defining the allowable proportion of enrollees from public programs, and favorable treatment of federally qualified HMOs. These indirect criteria, however, have inhibited the development of risk-based managed care for Medicaid beneficiaries.⁶

An effective quality assurance program would lessen the need for the indirect quality assurance measures. Allowing those states that are in full compliance with HCQIS requirements to obtain waivers from certain existing requirements would provide states with flexibility and the federal government with the ability to oversee implementation of changes, ensuring compliance with federal goals. The Commission is recommending that this approach be adopted for waiving both the enrollment composition rule and the voluntary disenrollment rule. Extending application for waivers to these specific requirements would retain other requirements relating to risk-based plans (such as the inability of HMOs or PHPs to terminate enrollment because of a change in a beneficiary's health status) that protect the beneficiary. The Commission also proposes lengthening the waiver period to lessen the administrative burden on states. Making these policy changes would provide incentives for states to adopt the HCQIS. These actions would facilitate use of managed care in states that chose to adopt HCQIS in the short term. Within five years, however, the Commission believes that enhanced quality assurance systems should not be optional, but required for all states. Each of these recommendations are discussed below.

Enrollment Composition

One of the principal indirect quality assurance measures in the current statute is a rule restricting enrollment of Medicaid and Medicare beneficiaries to less than 75 percent of the plan's members. The purpose of this rule was to ensure that contracts went only to those risk-based organizations that maintain standards of care high enough to attract and retain contracts with employment-based health benefit plans.

Implementation of enhanced quality assurance standards and the ability to waive the enrollment composition rule may encourage the provision of care in locations where it is most needed, while ensuring the quality of that care. Although the enrollment composition rule was instituted as a quality of care guarantee, it does not directly guarantee quality. Medicaid beneficiaries may be seen at different sites by different physicians than the commercial enrollees. The enrollment composition rule also limits the number of HMOs that can provide services to Medicaid beneficiaries. Given the residential segregation of some Medicaid beneficiaries, it may be difficult to find a nearby HMO that could meet this

⁶ The Congress also passed legislation to monitor directly quality of care in HMOs and PHPs. The Medicaid statute contains provisions for internal quality review programs, medical audits, and independent annual reviews.

enrollment rule. It hinders the development of Medicaid managed care in geographical areas with high concentrations of Medicaid beneficiaries (e.g., inner cities).

Lock-In

To ensure that Medicaid beneficiaries could leave an HMO that they found to provide poor quality care, the Congress also guaranteed the right to disenroll voluntarily from managed-care plans at any time. Later the Congress allowed for exclusions from this provision for federally qualified HMOs.⁷ Voluntary disenrollment allows dissatisfied beneficiaries to leave the plan and seek care from other providers at any time with a one-month notice. It is assumed that if enough beneficiaries terminate their enrollment in a plan, the plan might be forced to make needed changes or discontinue its Medicaid contract.

Enrollees' ability to disenroll without cause with only a one-month notice discourages managed-care providers from entering this market because enrollment turnover is costly for the organization and makes planning difficult. For the beneficiary, disenrollment could disrupt the continuity of care, weaken the physician-patient relationship, and diminish the organization's effort to improve preventive care.

Enhanced quality assurance standards would provide the primary way to ensure access and quality. With this protection in place, the ability to disenroll at any time is less important and, therefore, a waiver could be granted for a lock-in provision. Beneficiaries would be allowed to disenroll during an initial opt-out period (e.g., one-month), but would be unable to change during the next five months except for good cause.⁸

Under this proposal, Medicaid beneficiaries would be treated like employed persons who select an insurance plan during an open-enrollment period and are locked into that choice, typically for one year. It would facilitate the entry of more managed-care providers into this market, which would provide additional access to care for Medicaid beneficiaries.

Waivers

The waiver provisions are designed to allow Medicaid programs to adopt alternative health delivery systems, while ensuring the achievement of federal goals. Under Section 1915(b) of the Social Security Act, HCFA can waive basic Medicaid requirements (freedom of choice,

⁷ In 1984 Congress eased this restriction by permitting states to limit disenrollment without cause from all federally qualified HMOs for six months after enrollment.

⁸ Currently, Medicaid has a good-cause provision that applies to federally qualified HMOs. It could be extended to state plan risk-based organizations.

uniform statewide operation, and comparability of benefits) for two years. Currently, states cannot receive waivers from managed-care requirements such as the enrollment composition rule. Applications for Section 1915(b) waivers must demonstrate that the program will be cost effective and will not hinder access to necessary care.

From the state's perspective, innovative managed-care options are hindered by the rules for federal waivers. The application for waiver requires considerable staff time and agency resources. Since the waiver is only for two years, the measurement of the program's impact on access and its cost effectiveness for the waiver renewal process must use data from the first year of the program. Data collection for a waiver application is unusual and difficult to complete within the time frame. In addition to the pressures placed on the state by the two-year waiver process, the short waiver period and the uncertain continuation of the waived program make providers hesitant to participate.

Even though the waiver process is burdensome, it does ensure that state policies conform to federal goals for the Medicaid program. For states, the waiver process affords the opportunity for deliberate consideration of the proposed program's impact and successful planning for its implementation.

Extending the waiver period from two to five years for states that adopt the HCQIS would relieve some of the burden and still maintain necessary federal oversight. Since the five-year provision would apply to all Section 1915(b) waivers, it would give states a strong incentive to adopt the HCQIS. This provision, along with other changes (e.g., allowing for lock-in and the enrollment composition waiver) in the waiver policy, would allow for flexibility and innovation, while providing important safeguards.

Requiring Enhanced Quality Assurance

The movement of many Medicaid programs away from the fee-for-service system toward expanded use of managed care, especially risk-based managed care, increases the need for adoption of an enhanced quality assurance system. The HCQIS is a first and important step in the evolution of quality assurance for Medicaid managed care. As quality assurance improves, Medicaid should adopt state-of-the-art technology. In five years, the Commission recommends the adoption of an enhanced quality assurance system for all Medicaid programs that includes:

- internal quality assurance standards for risk-based managed care organizations that are equivalent to those used for managed care by the private sector,
- effective state oversight of the quality assurance programs of risk-based managed-care organizations,

- a state grievance process that provides for prompt and effective resolution of complaints that are not resolved in this fashion by organizational grievance processes,
- an enforceable federal monitoring plan to guarantee state oversight of the quality assurance standards, and
- national quality goals for specific targeted conditions or preventive health requirements.

In addition, the internal quality assurance standards should include:

- successful communication with enrollees about their rights and responsibilities,
- a meaningful grievance process that provides for effective and timely responses,
- an internal quality assurance program that has the capacity to measure the process and timeliness of health care delivery and health outcomes, consistent with existing technology,
- organizational verification of providers' credentials and periodic re-credentialing of providers,
- an effective remediation process for deficiencies identified in the quality assurance process,
- evidence that the board of directors and top management of the organization are accountable for and supportive of the quality assurance activities, and
- successful completion of an external quality of care review conducted by an independent organization.

Finally, Medicaid's quality assurance standards and processes for risk-based managed-care organizations should be as consistent as possible with the quality assurance efforts of other federal and state programs and the private sector.

Requiring the adoption of an enhanced quality assurance system in five years would allow for its gradual and successful implementation in all states. Although many states are currently capable of meeting these standards, others need technical assistance and, possibly, financial support. Some plans may also need time, financial support and technical assistance to comply with these standards. Waiting for five years would allow for improvements in quality

assessment technology. Demonstrations of the HCQIS in three states and the evaluation will provide more systematic information about the implementation of the new quality assurance system and ways to improve it for adoption in other states.

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MONITORING ACCESS FOR MEDICAID BENEFICIARIES

When the Commission began to take up issues related to the Medicaid program, it was guided by the principle that Medicaid beneficiaries should have access to medical care comparable to that experienced by Medicare beneficiaries. This same principle was embodied in the provision of the Omnibus Budget Reconciliation Act of 1989 (OBRA89) requiring states to guarantee access for pediatric and obstetric services comparable to that for the general population. A critical element in achieving the goal of comparable access is the ability to measure and monitor access in all states. Over the past year, the Commission has focused its Medicaid work on developing methods for measuring access that can be used by state Medicaid programs and by the Health Care Financing Administration (HCFA).

The Commission set out three criteria to guide its work. First, measures of access must be appropriate for the Medicaid population. Second, measures should be based on data that state Medicaid programs or HCFA can collect on a routine and timely basis. Third, measures should be chosen that provide useful information for policymakers.

Unlike the Commission's experience in monitoring access for Medicare beneficiaries, the first step in monitoring access in Medicaid must be data development. As the Commission has learned from its work related to Medicare, two major sources of information can be used to describe and monitor access: claims and surveys. Unfortunately, for Medicaid, little attention has been paid to the development of either type of data: Medicaid claims data are inadequate, and Medicaid-specific survey data do not exist. Nonetheless, with a sufficient commitment to data development by HCFA, claims data could be used for measuring many dimensions of access. Moreover, the Commission is exploring the potential of developing a Medicaid survey or a Medicaid supplement to a national survey that could be used to measure access.

The debate on health system reform has raised awareness about the need for an all-patient data system that will permit monitoring of expenditures, utilization, access, and quality of care. Although the future of the Medicaid program differs under various approaches to system reform, data that capture the experience of this population will be necessary under any alternative. The approach to Medicaid data development described here is consistent with what the Commission envisions will be required for a national data system (see Chapter 3).

RECOMMENDATION

The federal government should develop a national Medicaid claims-based data file that is useful for both monitoring access to care and other purposes, such as profiling physician practices and tracking and projecting expenditures. The federal government should have the primary responsibility for funding this data system.

This chapter is divided into four major sections. It begins by reviewing the requirements for measuring access imposed by OBRA89 and the problems encountered by state Medicaid programs in complying with the law. The second section considers the potential of claims data for measuring access and makes specific recommendations on development of a national Medicaid claims data system, including eligibility information suitable for monitoring access, utilization, and expenditures. The third presents the Commission's initial work in evaluating potential uses of survey data; this is the first part of a project being conducted under contract by the Center for Health Policy Studies at Georgetown University and Mathematica Policy Research. The chapter concludes with a work plan describing ongoing efforts to develop suitable Medicaid access measures based on survey data.

THE OBRA89 EQUAL ACCESS PROVISION

Although federal regulations have long required that Medicaid fees be sufficient to ensure that Medicaid beneficiaries have access to care comparable to that of the general population, until recently states were not obligated to show compliance with this requirement. Under the OBRA89 equal access provision, states must now submit documentation to HCFA each April demonstrating that payment levels for pediatric and obstetric services are sufficient to ensure access. Even though the statute did not provide explicit directions on how states should demonstrate comparable access, HCFA has instructed states that compliance could be established by meeting one of three standards:

- at least 50 percent of obstetric practitioners and at least 50 percent of pediatric practitioners are full Medicaid participants or there is full Medicaid participation at the same rate as Blue Shield participation;¹
- Medicaid fee-for-service payment rates are equal to at least 90 percent of the average fee-for-service amount of private insurers; or

¹ Full participation means accepting all Medicaid patients who present themselves for care. Obstetric practitioners include obstetrician-gynecologists, family practitioners, certified nurse-midwives, and certified family nurse practitioners. Pediatric practitioners include pediatricians, family practitioners, and certified pediatric nurse practitioners. If a county has only one such practitioner, 100 percent participation must be demonstrated.

- other documentation of equal access including other measures of participation, recipient surveys, or equal visit utilization rates.

These data must be submitted at the county or other appropriate substate level.²

The Commission examined the implementation of these requirements by reviewing state plan amendments and informally surveying Medicaid staff in several states as well as officials in HCFA's central and regional offices. As a result of this work, the Commission has identified several problems. First, state Medicaid programs often do not have access to the information needed to make the required assurances. For example, few can identify physicians who are not enrolled with Medicaid even though such information is needed to determine the denominator for participation rates.³ Similarly, even states that have substantially increased obstetric and pediatric fees to levels that might compare favorably with private payers cannot obtain proprietary information on private payers' fees.

Second, when states can certify that at least 50 percent of obstetric and pediatric practitioners are Medicaid participants, it is not clear that these numbers are meaningful. Most states have assumed that participation means billing at least one Medicaid claim per year.⁴ Few can demonstrate whether physicians enrolled in the Medicaid program accept all presenting Medicaid beneficiaries or the extent of their Medicaid caseload.

Third, states that have sought to improve access by putting Medicaid dollars into alternative delivery systems, such as public health clinics or community health centers, enter the process disadvantaged. This is because these providers, although they may serve a substantial Medicaid population, cannot be counted as obstetric and pediatric practitioners.⁵

Since HCFA regional offices review states' compliance with this provision, another sensitive issue is variation in enforcement standards across HCFA regions. The New England states are not required to develop substate analyses and there has only been one disapproval in the past three years, for instance. In the Midwestern region encompassing Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin, all states were initially disapproved in 1990 as were five in

² These requirements were made available to the states in the form of draft state manual instructions.

³ Even lists provided by state licensing boards may not provide sufficient information. In Michigan and Florida, the licensing board does not identify physicians by specialty. In Louisiana, Medicaid officials had to call every pediatrician, family physician, and obstetrician in the state to find out who was in active practice.

⁴ HCFA is considering a more rigorous measure of participation: a participating physician is one who submits, on average, one claim per month.

⁵ HCFA is considering allowing these providers to be counted in access determinations.

1991 and two in 1992. This situation will likely improve when final state manual instructions and a Notice of Proposed Rulemaking are issued.⁶

Many state officials feel frustrated by what they see as HCFA's attention to bureaucratic detail and disinterest in securing improvements in access. For example, in cases where a state plan is disapproved in one year but approved in the following, one might assume this to be evidence of improvements in access. But states in this situation must continue to resubmit historical data for the disapproved plan until that plan also meets HCFA's terms. States judged out of compliance stand to lose their federal Medicaid funds and thus continue to devote substantial staff resources to meeting the federal standards. To date, however, the full penalties of the law have not been enforced.

Despite these shortcomings, the equal access provision of OBRA89 remains an important tool for advocates to use in securing policy changes through the courts. Although Medicaid officials express frustration with the requirements imposed by the law, most are supportive of its intent. State officials are frustrated, however, that resources spent submitting and resubmitting plan amendments could be better used to secure real improvements in access.

To address these problems, there are both short-term and long-term solutions. In the short term, HCFA could standardize its procedures. It could also ease the data collection burden on states. For example, it could allow states to compare Medicaid fees against Medicare payments, at least for evaluation and management services. Or, it could provide states with counts of active physicians by specialty by county from the Area Resource File.

In the long term, more meaningful measures of access are needed. This is because measures, such as Medicaid physician participation rates and the level of Medicaid fees, are not sufficient to determine whether access has been realized. Other critical dimensions of access include the extent to which the Medicaid population uses health care resources, their satisfaction with the services, the appropriateness of care, and whether positive health outcomes are achieved. Systematic collection of claims and survey data are necessary to measure these dimensions of access.

MEASURING ACCESS WITH CLAIMS DATA

This section considers the potential of using Medicaid claims to monitor access. It begins with an overview of the kinds of access measures that could be developed with claims data in combination with other state-level data sources. It then describes and evaluates the status of current Medicaid claims files and their suitability for measuring access to care. It concludes

⁶ Approval of new instructions and the Notice of Proposed Rulemaking had been in progress but were delayed by the change in Administrations.

by recommending the development of a national Medicaid data system that includes both claims and eligibility data.

Claims-Based Measures of Access

Claims data can be a rich source of information, providing a record of personal service use.⁷ With such data, including eligibility data necessary for calculating rates, it should be possible to measure two dimensions of health care access: utilization and health outcomes. Both kinds of indicators are discussed below.

Utilization Measures. Determining whether equitable access has been achieved may be easier, in some cases, for Medicaid beneficiaries than it is for Medicare beneficiaries because consensus exists about the kind and amount of care certain individuals require. It is generally agreed, for example, that prenatal care for Medicaid mothers should begin in the first trimester of pregnancy and that such care is always appropriate. Particular aspects of health care access relevant to the Medicaid population have been addressed in the literature and are highlighted here.

Preventive Services. The adequacy of health screening is an important indicator of Medicaid access, given the age of the population and the potential savings primary prevention offers. Underservice can be evaluated by selecting at-risk subgroups of Medicaid beneficiaries for whom specific preventive care standards are established. As examples, access to preventive services could be monitored by determining the proportion of Medicaid women having Pap tests at appropriate intervals and the percentage of Medicaid children under two years old who receive the recommended number of well-child visits. Data on immunization and communicable disease rates from state health department records could also be matched to Medicaid eligibility files to compare immunization rates for children insured by Medicaid to those for the general population.

Prenatal Care. Aspects of Medicaid-financed pregnancy and post-delivery care can be monitored with claims data, providing detailed information about care throughout the maternity cycle. For example, Howell and Brown (1989) studied all hospital deliveries paid for by Medicaid in three states, characterizing the proportion of Medicaid mothers receiving services in each trimester as a measure of access and using certain utilization measures as surrogates for delivery outcomes. Abnormally long hospital stays, the need for prescription drugs or radiology services after hospital discharge, the proportion of infants requiring intensive care services, and the proportion of mothers discharged before their infants were all used as measures of poor access to prenatal care (Howell and Brown 1989).

Other Ambulatory Utilization Measures. Broad measures of utilization, such as the number of physician visits in a year, the availability of a usual source of care, and

⁷ Generally speaking, Medicaid claims data include procedure code, modifier, date of service, number of services provided, type of service, submitted charge, payment, and, for a hospital service, diagnosis.

hospitalization rates have been used extensively by researchers who studied access for the uninsured and Medicaid beneficiaries (Wilensky and Berk 1982; Davis and Rowland 1983; Freeman et al. 1987). These measures, albeit fairly gross indicators of access, could be developed from claims data.

An advantage of claims data is the reliability of information about the frequency of visits and hospitalizations and, to some extent, the nature of these services. For example, claims data document the site of care. It is possible to monitor emergency room and outpatient department use by Medicaid beneficiaries. Inadequate access to primary care in physicians' offices often results in emergency room use for nonurgent care. Data from the National Medical Care Utilization and Expenditure Survey (NMCUES) showed that Medicaid beneficiaries who qualified through Aid to Families with Dependent Children (AFDC) used emergency room services and outpatient departments at much higher rates than the non-Medicaid population (HCFA/NCHS 1985). Moreover, using claims data, Hurley and associates (1989) were able to compare the impact of four Medicaid case management programs on the use of emergency room services by AFDC populations over a period of several years.

Information describing the process of care can be gathered from claims data and compared against established standards of care. It should be possible, for instance, to identify the proportion of Medicaid patients who fail to receive follow-up care. Patients treated for urinary tract infections who have no follow-up urine culture or patients hospitalized with acute myocardial infarctions who do not see a physician in the first month post-discharge may indicate an access problem.⁸

Patterns of primary and specialty care could also be determined if claims data were linked to physician data files. Thus, knowing the proportion of all visits made by a Medicaid patient to a primary care provider might shed light on problems with continuity and coordination of care in the program. In addition, it should be possible to determine whether appropriate levels of ongoing primary care or necessary referrals for specialty care are being made for Medicaid beneficiaries with specific health problems. Hypertensive patients being treated with prescription drugs, for example, ought to have a minimum number of evaluation visits in a year. Likewise, an insulin-dependent diabetic over 50 years old ought to have been referred for an evaluation by an ophthalmologist. Fewer visits or no referral might indicate an access problem (Weiner 1990).

Hospital Care. Because few, if any, disease-specific standards of hospital care currently exist and measures of illness severity are generally not available, it is difficult to use hospital data to determine if appropriate care is being denied to certain population groups. Broad indicators of hospital resource use, such as total hospital charges and length of stay, however,

⁸ In order to analyze follow-up care, accurate reporting of diagnosis codes would be necessary.

evaluated to compare the hospital care of Medicaid beneficiaries to those with private health insurance (Dowd et al. 1986; Weissman and Epstein 1989). Studying sick newborns, Braveman and colleagues (1991) found that Medicaid and uninsured infants had significantly shorter lengths of stay and lower total charges per day than the insured newborns. Lower rates of diagnostic and surgical procedures for Medicaid patients have also been reported (Wenneker et al. 1990).

These studies had the benefit of unique data sets containing uniform sociodemographic, diagnostic, and procedure information, elements generally not available from Medicaid claims for all states. The results consistently demonstrated a pattern of lower hospital resource use by Medicaid and uninsured patients. Each study was limited, however, in its ability to control for severity of illness, making it impossible to determine who was being underserved and who may have been getting inappropriate hospital care.

Health Outcomes. Morbidity and mortality rates, particularly maternal and infant mortality rates, are commonly used outcome indicators. But given that the consequences of inadequate or poor quality care may take years to manifest, these are not particularly useful measures for policy purposes. Claims data can provide more timely measures of the outcome of care by identifying health conditions that could have been prevented had appropriate care been received as the need arose.⁹

Preventable health conditions, called sentinel health events, are an extension of the public health practice of measuring standard morbidity and mortality rates. First put forth by Rutstein and his colleagues (1976) as a means to measure quality of care, sentinel health events are defined as diseases, disabilities, and deaths that can be prevented, treated, or controlled with access to appropriate primary care. They can serve as indicators of potential unmet need and trigger the investigation of underlying causes and the search for corrective actions (Rutstein et al. 1976; HRSA 1987; Carr et al. 1988). Recently, research using sentinel events has evolved to examine avoidable hospital conditions as indicators of poor access to primary care (Weissman et al. 1992).

Three kinds of sentinel health events have been described. First, there are singular conditions that should never occur if individuals are receiving ongoing primary care (e.g., a detectable rate for a vaccine-preventable disease). Second are those conditions that may never be totally prevented but the incidence of which can be reduced, such as the incidence of low birthweight babies. The third kind of sentinel event consists of complications or later stages

⁹ Analysis of claims along with other sources can be a valuable approach to such preventable health conditions. For example, Florida has merged vital statistics with claims data.

of a disease that occur because of uncontrolled progression of the condition, for instance, bleeding ulcer and diabetic ketoacidosis.¹⁰

Two studies have been conducted to evaluate the sentinel health event methodology. In 1987 the Health Resources and Services Administration developed and field-tested a sentinel event method in urban and rural sites. The model measured 10 sentinel events, including 4 specific to infants and children. Data sources used to capture sentinel events included (1) centralized hospital discharge data and, when available, state tumor registry data; (2) birth certificate data (for low birth weight and prenatal care information); (3) state health department reportable disease reports; and (4) Census data. The researchers were able to identify possible geographic areas of underservice, commenting that the method could be used to target resources to specific at-risk populations as well. A tangential finding was that the highest rates of sentinel health events in at least one urban area occurred in the Medicaid population. Although this study had useful findings, the researchers recommended that existing state and federal health data bases incorporate additional information needed to monitor sentinel events for public health planning (HRSA 1987).

The other large-scale sentinel event project, conducted by the United Hospital Fund of New York, used only hospital discharge abstract information to examine differences in sentinel events (both single-event and prevalence indicators) among subgroups of the state's population. They found significantly higher rates for many sentinel events among blacks, Medicaid beneficiaries, and users of public hospitals compared with the general population. These researchers also concluded that the sentinel health event method applied to hospital discharge data is a promising methodology. They continue to explore its uses to identify underserved populations and monitor changes in policy (Carr et al. 1988).

Limitations of Using Claims Data for Monitoring Access

Although claims data appear to hold considerable promise for measuring access to care among Medicaid beneficiaries, it is important to recognize three major limitations. Two of these are innate to claims data and the third unique to Medicaid claims. First, judging the adequacy of access requires comparisons. The comparison can be with another population or to an established standard of care. Using Medicaid claims there is no readily available population data for comparison unless all-payer uniform, integrated data collection systems are developed and available.¹¹ Even when standards can be applied, it may be difficult to draw conclusions without comparable data from another population. For example, neither population may meet the standard.

¹⁰ Such conditions almost always require hospitalization and therefore hospital discharge data are particularly well suited for analysis of these events. Incidence and prevalence rates among at-risk populations are compared to average population rates to determine relative risks and potential access problems.

¹¹ See Chapter 3 for a detailed discussion of this issue.

Second, even when data on comparable groups are available, the lack of health status information makes it difficult to adjust utilization on the basis of personal health need. This is particularly important for Medicaid monitoring since the overall health status of the Medicaid population is generally poorer than the general population (HCFA 1986).

The critical importance of health status becomes apparent when one compares utilization with and without health status adjustment. National survey results show Medicaid beneficiaries use more services than the non-Medicaid population. But research has also shown that when adjusting for health status, their use of services does not differ greatly from the nonpoor (Newacheck 1988).

Despite the importance of health status as an intervening variable, it is difficult to measure with claims data. Health status is multidimensional, encompassing physical and functional health, as well as mental and social well-being. Measures of physical health ought to include a list of health problems or medical diagnoses, risk factors, and health habits. Mental and social health measures have not been used in access studies, although both are relevant to policymakers. These measures can be obtained only from surveys or medical records.

The third limitation arises because of significant turnover in Medicaid enrollment. Adjusting for differences in Medicaid enrollment time, for example, is particularly important for evaluating maternity care. Grouping mothers enrolled late in pregnancy with those enrolled throughout pregnancy gives a deceptively negative picture of the benefits Medicaid coverage can confer (Jencks and Benedict 1990). Enrollment turnover also makes it difficult to determine the denominator for utilization rates.

Existing Medicaid Claims Data

Claims data suitable for monitoring access to medical care for Medicaid beneficiaries are very limited compared to that developed by the Medicare program.¹² Medicare has a standardized claims data system for the entire nation. At this time, Medicaid lacks this crucial national data collection effort, which is necessary to monitor access and quality of care as well as to understand the rapid growth in Medicaid expenditures. With the necessary resources, however, HCFA could develop a national Medicaid claims and eligibility data system for these needs.

Before discussing the different Medicaid claims data files, it is useful to review the development of Medicare data as a model. Before the mid-1980s, each of 56 Medicare carriers had its own data system, determining its own conventions for coding. Since the early 1980s Medicare has developed a national system, refining claims data collection first with the Part B Medicare Annual Data (BMAD) system, and now with the National Claims History

¹² Although Medicare data files are more uniform than Medicaid's, Medicaid data capture more information on health services because the Medicaid benefit package is broader than Medicare's.

system. Since 1985 HCFA has required the use of Current Procedural Terminology (CPT) codes for most services, and has standardized the use of specialty, type of service, place of service, and modifier codes. HCFA also used edit checks to maintain the internal consistency of BMAD. The implementation of the Medicare Fee Schedule achieved the final standardization of Medicare data by eliminating most local procedure codes and standardizing payment policies.

In addition to providing standardized data, Medicare claims data are available in a relatively timely fashion. With the development of the National Claims History system, claims can be monitored on a flow basis, if desired. Additionally, Medicare has developed a denominator file that includes information on eligibility, residence, and some sociodemographic characteristics of its beneficiaries. This has made it possible to compare rates of utilization across different Medicare populations.

In contrast to Medicare files, the national Medicaid data files have been developed under different conditions and for different purposes. All national Medicaid files are based on information derived from each state's Medicaid Management Information System (MMIS). In 1980 the Congress required development of MMIS in all but the smallest states.¹³ MMIS specifies performance standards for processing claims, collecting information on providers and beneficiaries, furnishing data for statistical purposes, and identifying fraud and abuse (CRS 1988). The MMIS standards are largely functional in nature and do not require uniformity across the states. All Medicaid current data collection efforts are limited by the quality of MMIS data.

This section describes the status of three data files that are derived from the MMIS: the Medicaid Statistical File, the Medicaid Statistical Information System, and the Medicaid Tape-to-Tape project. Their potential for monitoring access to care for Medicaid beneficiaries is also addressed.

Medicaid Statistical File. HCFA's Bureau of Data Management and Strategy prepares Medicaid Statistical Files summarizing the number of Medicaid eligibles, beneficiaries, services, utilization, and payments by state for each federal fiscal year. For example, Medicaid expenditures for physician services for the AFDC enrollees in each state are reported. In addition, the number of people eligible for Medicaid who are older than 64 years of age is presented.

Information for the Medicaid Statistical Files is obtained from the HCFA-2082 form, which all states are required to submit as a condition of participation in the program. Most states obtain the HCFA-2082 data from their MMIS.

¹³ Although Alaska, Delaware, Nevada, Rhode Island, and Wyoming are exempt from this provision, they have systems to process claims and review utilization. Additionally, Alaska and Wyoming implemented MMIS. Alaska, Delaware, Nevada, and Wyoming submit data for the Medicare Statistical Information System.

Although these files constitute the most complete Medicaid data collection at the national level, they are unsuitable for analyzing access. These files are aggregated to a level that makes analysis of access issues impossible. The Medicaid Statistical File reports information on total expenditures and total recipients by type of service received and by category of eligibility. The service categories are extremely broad, such as those for inpatient hospital services and physician services, making it difficult to compare utilization of services by Medicaid beneficiaries with that of other populations or established standards. For example, comparison of the number of prenatal visits associated with Medicaid deliveries with the American College of Obstetricians and Gynecologists' standard could not be made with these files.

Medicaid Statistical Information System. The Medicaid Statistical Information System (MSIS) contains claims and eligibility data that are similar to BMAD and the Medicare denominator file.¹⁴ The primary-level MSIS files include two types of files, eligibility and claims files. The eligibility file includes a beneficiary identifier; demographic data (e.g., birth date, sex, race); zip code; basis of eligibility; and days of enrollment. Three separate claims files exist for inpatient hospital, long-term care facilities, and other services such as physicians' services and prescription drugs. The claims files have fields for beneficiary identifiers, payments, diagnosis codes, and service codes. The secondary level MSIS file is a personal summary file that condenses each individual's eligibility and claims for the year.

MSIS states are required to submit their files 45 days after the end of a fiscal quarter. Currently, all MSIS files are available for all quarters up to October 1, 1992, and for some states through December 1992.

There are three limitations to the MSIS files. Because participation is voluntary, only 23 states, accounting for about one-third of Medicaid expenditures, submit full claims and eligibility MSIS data to HCFA.¹⁵ Some states with large Medicaid expenditures, such as Illinois, Michigan, and New York, are not included in MSIS.

Second, HCFA requires that participating states submit specific data elements for the MSIS file; other elements including those most useful for measuring access are optional. For example, diagnosis and procedure codes, and place of service may not be on the claims files; zip code and county of residence, eligibility group, and date of death may not be reported on the eligibility file (Cherlow et al. 1991).¹⁶

¹⁴ States voluntarily submit MSIS data in lieu of submitting Form 2082 on paper. HCFA summarizes the MSIS data to create the Form 2082 for these states.

¹⁵ Pennsylvania and Minnesota are close to full participation. When these states participate fully, the MSIS will include 40 percent of Medicaid expenditures.

¹⁶ Although the data are optional, most MSIS states report them. For example, 22 of the 23 states report diagnostic codes and 18 report beneficiary's date of death. Currently, HCFA's Office of Research is assessing the quality of data elements for research and policy purposes.

Third, editing of MSIS data is limited. Although the MSIS project has specific edits to see whether values for data elements fall outside acceptable ranges, HCFA will tolerate a specified percentage of error that varies for each data element (e.g., 5 percent for dates of death and 0.1 percent for birthdates). While this limits the amount of error for each item, a significant portion of records for a state may contain at least one error. Further, there is no editing for internal, logical consistency, such as comparisons of demographic information with services provided and consistency of procedure codes with type and place of service codes. For instance, are those receiving well-baby services under a specific age? Or, what is the sex of those receiving prostatectomies?

Finally, MSIS data is difficult to use for access analysis because of the degree of reporting autonomy granted to the states. States use different coding systems to report data and, only sometimes, supply up-to-date paper copies of crosswalks to HCFA. Thus, for example, codes for physicians' services may be CPT, HCFA Common Procedure Coding System (HCPCS), or state-specific systems.¹⁷ When a state uses procedure codes other than CPT, it would be difficult to compare Medicaid access in that state either with access in another state or with non-Medicaid populations within the state.

Ultimately, it is hard to appraise the quality of MSIS data because they have been used for few policy and research purposes. Given the number of states participating in MSIS, the Commission believes that it is the most likely resource for measuring access for Medicaid beneficiaries using claims and eligibility data, however.

Tape-to-Tape. Tape-to-Tape is a pilot project of HCFA's Office of Research and Demonstrations. HCFA's contractor has reprocessed MMIS data to create research-usable enrollment, provider, and claims files for California, Georgia, Michigan, and Tennessee. State-specific codes have been crosswalked to standardized codes. Original and adjusted claims records are reconciled to create one claim record for each service. The Tape-to-Tape project has produced data of such good quality that they have been used for analysis and in published articles.

The Tape-to-Tape enrollment file includes Social Security numbers; demographic information (e.g., birth date, sex, race); and Medicaid enrollment status by month. There are separate claims files for drugs, inpatient hospital services, dental care, long-term care, and outpatient services. Physicians' services are included in the outpatient file along with all claims that do not fit in the other categories, such as those for emergency room services.

Additionally, there are provider and summary beneficiary files. The summary beneficiary file includes the beneficiary's demographic and eligibility information, number of visits, number of hospital discharges, total hospital days, and total expenditures by type of service. The provider file includes provider address, specialty, and total payments received from Medicaid for the year.

¹⁷ Although states are required to implement HCPCS for ambulatory services, HCPCS allows the use of local codes and, additionally, some states have obtained waivers to delay implementation of HCPCS.

Although great care has been taken to clean these data, there are limitations. Tape-to-Tape contains monthly payments for beneficiaries in capitated plans, but these are incomplete for both California and Michigan. There is some delay in the availability of these files due to claims runout and file preparation. As of January 1993, enrollment, claims, and provider data were available for 1980 through 1990 for all four states. Additionally, Michigan enrollment and claims data were available for 1991.¹⁸

Directions

Currently, it is impossible to measure access to medical care for Medicaid beneficiaries in all states with claims data. No suitable data are available for all states. For the Tape-to-Tape project, HCFA collects data from just four states; only 23 states participate in MSIS. The usefulness of the MSIS data is limited by the failure to use standardized codes and the allowance for optional data elements.

The Commission recommends that a national Medicaid claims and eligibility data system be developed that would be useful for monitoring access to care. Although the Commission's principal concern is access, a Medicaid claims and eligibility data system would fulfill other needs such as profiling physician practices and tracking and projecting expenditures. Additionally, the availability of better data from all payers, including Medicaid, will be a necessary element in reform of the health care system.

Specifically, a Medicaid data system should:

- be national in scope, including all Medicaid programs;
- make data available in a timely fashion;
- require standardized use of uniform codes;
- identify beneficiaries with unique numbers;
- use unique provider identification numbers;
- identify place of service;
- require consistent reporting of reprocessed claims; and
- use standardized edit and consistency checks.

Nevertheless, states for their own internal claims processing and analysis could continue to use their own coding systems. As the carriers did in producing BMAD files with Medicare claims data, local coding could be crosswalked to standardized codes prior to submission to HCFA.

¹⁸ It is anticipated that Tape-to-Tape data for 1991 will be available by April 1993.

This system should adopt Medicare's data standards or those for a national data system for all payers (see Chapter 3). For example, use of Medicare's Unique Physician Identification Number (UPIN) by Medicaid programs would allow for much improved analysis, especially for participation studies and profiling needs.

HCFA's development of Medicare claims data files, first for the BMAD system and later for the National Claims History system, provides valuable insights and experience for creating a comparable system for Medicaid. A national Medicaid claims system should build on this experience by gradually applying the claims processing and data cleaning experience to MSIS and expanding MSIS to include more states.¹⁹

Establishing this data system is important for monitoring access, but there will be start-up costs at both the state and national levels. It is the Commission's view that the federal government should substantially fund establishment of this system.

After an appropriate phase-in period, the Commission believes that all states should be required to submit MSIS data that meet nationally specified standards. HCFA needs to produce a strategic plan for the development of this data system, generate standards for data elements, and provide technical assistance to the states.

MEASURING ACCESS USING SURVEY DATA

The Commission is also exploring the potential of survey data for monitoring access to care under the Medicaid program.²⁰ This multiyear project began by evaluating current national surveys, such as the National Medical Expenditure Survey (NMES) and National Health Interview Survey (NHIS), as instruments to measure access for Medicaid beneficiaries. This section presents highlights of work completed to date and is divided into four subsections. The first section describes four national surveys that have the potential to measure access for Medicaid beneficiaries. The second reviews whether the sample design of these surveys allows for generation of state-level estimates of access to care for the Medicaid population and regional or national access estimates for comparison groups. In the third, the item content of the four surveys and their relevance to the task of monitoring access to care is considered. Finally, problems in survey design identified in reviewing these surveys are discussed.

This evaluation makes several assumptions about appropriate measures to monitor access. First, appropriate measures must provide timely, state-specific estimates of access to care

¹⁹ Recognizing the need for better information on the Medicaid program, HCFA has developed an internal proposal to improve the MSIS data. The final decision on the proposal has been delayed because of the change in Administrations.

²⁰ The following section of this chapter is based on Hadley et al. (1993).

for Medicaid beneficiaries. Second, measures should be suitable for making comparisons across states, and for making comparisons either with existing national data for other populations or with gold standards.²¹ Third, measures should emphasize primary, preventive, and prenatal care for noninstitutionalized beneficiaries not dually eligible for Medicare.²²

The Commission's first objective was to identify the extent to which existing national surveys could meet these goals. That is, are current survey data sufficient for monitoring Medicaid access? These surveys can be used to analyze some aspects of access for Medicaid beneficiaries. For example, the National Medical Expenditure Survey showed that even though Medicaid beneficiaries are more likely to have a usual source of care than are others, their source of care is less likely to be in a physician's office (Cornelius et al. 1991).

Although these surveys are useful to answer some questions about access for Medicaid beneficiaries, they are not capable of providing state-specific estimates of Medicaid access.

Because no existing national survey can furnish state-specific estimates of Medicaid access for the relevant subpopulations, additional objectives for this section included identifying:

- whether and how existing surveys could be modified to better meet these objectives (for example, by adding specific questions);
- whether existing surveys can be useful in monitoring Medicaid access by providing comparison data for non-Medicaid populations (such as the uninsured and privately insured); and
- whether existing surveys provide lessons on sample design, item content, and survey strategy that would be relevant if a separate stand-alone survey is required to measure access to care for Medicaid beneficiaries.

Description of the Surveys

The Commission looked at four major surveys whose scope, focus, and timeliness suggest that they potentially could be used either to monitor Medicaid access or to provide data against which the experience of Medicaid data could be compared: the National Health Interview Survey; the National Maternal and Infant Health Survey of 1988 (NMIHS) and its 1991 longitudinal follow-up; the Survey of Income and Program Participation (SIPP); and the

²¹ While Medicaid access needs to be measured for each state, the project assumes that national (or regional) comparison data will be sufficient if they are defined for subpopulations of interest.

²² The access experience of dual eligibles can be measured with the Medicare Current Beneficiary Survey.

National Medical Expenditure Survey of 1987 (Table 15-1).²³ In the next phase of the project, the Commission will review selected relevant information, such as item content or sampling design, from other surveys including the 1977 National Medical Care Expenditure Survey, the 1980 National Medical Care Utilization and Expenditure Survey, the Medicare Current Beneficiary Survey, surveys sponsored by the Robert Wood Johnson Foundation, the survey series of the Center for Health Administration Studies of the University of Chicago in conjunction with the National Opinion Research Corporation, and any notable state efforts.

Table 15-1. Characteristics of four major national health surveys

Survey	Sponsor	Period	Sample frame	Sample size
National Health Interview Survey	National Center for Health Statistics/HHS	Annual	Civilian non-institutionalized U.S. population	~ 120,000 individuals in 49,000 households
Survey of Income and Program Participation	Bureau of the Census	Annual panel survey with rotation design	Resident non-institutionalized U.S. population	~ 54,000 individuals in 21,900 dwelling units
National Medical Expenditure Survey	Agency for Health Care Policy and Research/HHS	1987 panel, repeated periodically	Civilian non-institutionalized U.S. population	35,000 individuals in 14,000 households
National Maternal and Infant Health Survey	National Center for Health Statistics/HHS	1988 panel with longitudinal followup in 1991, repeated periodically	Selected from vital records in 48 states and DC	~ 18,600 mothers: ~ 9,900 live births, ~ 3,300 fetal deaths, ~ 5,500 infant deaths

Source. Hadley et al. 1993.

The National Health Interview Survey. The largest of the four surveys considered, the NHIS is an ongoing national household survey conducted by the National Center for Health Statistics (NCHS). It covers health issues such as utilization, sociodemographic characteristics, and health and functional status measures. Based on a multistage probability design for the noninstitutionalized civilian population, the NHIS involves in-person interviews.²⁴ In 1990, it covered approximately 120,000 individuals in almost 49,000 households. The black population is oversampled by using higher sampling rates for areas of primary sampling units (PSUs) with the highest black population concentrations.

²³ Although the Current Population Survey was initially considered, it was subsequently excluded because it has no questions on health care use.

²⁴ Area probability sampling is a multistage selection process where at least the first stage of selection (primary sampling units) is geographically defined areas. In the NHIS and other large surveys, primary sampling units are usually metropolitan statistical areas, counties or county-equivalents.

The National Maternal and Infant Health Survey. The NMIHS was conducted by the National Center for Health Statistics in 1988 with a longitudinal follow-up in 1991. The NMIHS sample was selected from state vital records (birth certificates, reports of fetal death, and infant death certificates) for three groups:

- national population of women who experienced a live birth in 1988,
- national population of women who experienced a fetal death of at least 28 weeks gestation in 1988, and
- national population of women who experienced the death of an infant (a child up to one year of age) in 1988.

Blacks were oversampled in all three samples, and infants of very low birthweight (less than 1,500 grams) and moderately low birthweight (1,500 to 2,499 grams) were oversampled in the live birth sample. In addition to the three national samples, the NMIHS also collected data from supplemental samples of native American women who had a live birth in 1988 and Hispanic women in Texas who had a live birth, fetal death, or infant death in 1988.

NMIHS includes data from the vital records, a survey of the mothers, and a survey of hospitals and health care providers that furnished medical care to the sampled women. Data from vital records were obtained for about 28,000 cases in 48 states and the District of Columbia. Interviews were conducted with 18,594 mothers on topics including time of initial receipt of prenatal care, the number of prenatal visits, services received, source of care, barriers to care, whether Medicaid covered the birth, and socioeconomic data. The 1991 follow-up survey reinterviewed women from the live birth sample and collected data from those hospitals and health care providers that gave services to the child.

The Survey of Income and Program Participation. SIPP is an annual panel survey conducted by the Bureau of the Census. Its purpose is to collect information on labor force activity, wages, salary and self-employment earnings, other income, noncash benefits, eligibility for government public assistance programs, assets, and liabilities. The sampling frame consists of 230 PSUs, each consisting of a county or a group of contiguous counties. The 1990 sample obtained interviews from occupants of about 21,900 dwelling units.

The 1990 panel oversampled low-income households by taking a small subsample from the 1989 panel and combining it with the scheduled 1990 sample. The additional subsample contains all households headed by blacks, all households headed by Hispanics, all households with heads having no spouse present, and a random sample of other households that were selected for the 1989 panel.

SIPP is conducted in a series of eight interview waves, fielded every four months, spanning a 32-month period.²⁵ SIPP's core instrument gathers labor force, income, and program participation information from all waves of the survey. Other waves gather information on topics that do not require frequent reexamination. The third wave, for instance, contains a health module which has questions on health insurance, disability, and health service utilization (Wilensky 1985).

The National Medical Expenditure Survey. The NMES, the latest of a series of expenditure surveys sponsored by the federal government, was conducted by the National Center for Health Services Research (now the Agency for Health Care Policy and Research) in 1987. Like the NHIS, NMES addresses utilization, finance, health status, and access issues, but does so in considerably more depth. Its design also supports more sophisticated analysis of insurance coverage issues.²⁶ NMES included about 35,000 individuals in 14,000 households and oversampled blacks, Hispanics, and low-income households. Another survey in the series is currently planned for 1996, but is not yet funded.

The number of Medicaid beneficiaries among the NMES Household Survey sample was very small. Only 4,193 persons reported that they had been covered by Medicaid at some point during the reference period for round one; this number includes 2,889 persons who were covered during the entire reference period, as well as 1,304 individuals who were covered only for part of the period.

Sample Design

In evaluating the usefulness of existing surveys in measuring access for Medicaid beneficiaries, two sample design issues were considered. First, can state-level estimates of access be generated from the survey? Alternatively, can national or regional estimates be produced for comparison groups (e.g., the privately insured and the uninsured)?

To answer these questions, sample size and precision of estimates were considered for states and subpopulations. Because the Medicaid population is demographically diverse and differs from other insured groups, subgroup estimates, such as those for children, pregnant women, or women of child-bearing age, are important for making appropriate comparisons to other populations. For the purpose of measuring access to care for Medicaid beneficiaries, subgroups of interest are defined by insurance status (Medicaid, privately insured, uninsured); income (low-income and other); and six groups defined by

²⁵ The 1989 panel is an exception, as it was curtailed after the third wave to allow for the funding needed to enlarge the 1990 panel.

²⁶ For example, NMES captures part-year Medicaid coverage while the NHIS provides only single-point estimates.

age, sex, and pregnancy.²⁷ Based on these variables, there are 12 subgroups (six demographic groups by two income levels) among each of the three insurance groups, for a total of 36 possible subgroups. For comparison purposes, the higher-income uninsured group is the least important as it tends to be unusual and diverse in its composition.

None of the surveys reviewed here has a large enough sample to provide either aggregate estimates for all states or reliable state-level estimates for all subgroups within a state.²⁸ NHIS, the largest of the surveys considered in this study, would produce an effective national sample size of 7,000 to 8,000 Medicaid beneficiaries.²⁹ At best it is expected that it would have effective Medicaid samples of about 900 in California, 600 in Texas, 500 in New York, and 300 to 350 in 15 or so other states.³⁰ Thus, the NHIS could not be used to produce estimates for most states. Additionally, it could not provide reliable state-level estimates for the subgroups listed above in any of the states.

National and regional estimates for some of the subgroups, however, may be available using the NHIS. In addition, NMIHS could be used for national or regional estimates for pregnant women. SIPP could be used for estimates in five to ten states and for some subgroups. NMES can support some subgroup analysis at the national level.

The most effective comparisons can be generated if a Medicaid access survey is restricted to those eligible by virtue of AFDC status or recent OBRA expansions for pregnant women and children. This focus would be consistent with the broad objective of developing state-specific estimates of access to care, emphasizing primary, preventive, and prenatal care for noninstitutionalized beneficiaries not dually eligible for Medicare.

Item Content

In its previous work, the Commission defined access broadly to encompass those factors related to a population's ability to enter the health system when care is needed. This ability is affected by aspects of the delivery system (e.g., the number and distribution of providers) and by characteristics of individuals (e.g., age, health status, income, insurance coverage, and race). Other indicators of access describe whether potential access becomes realized access

²⁷ These are (1) children under 8 years of age, (2) children 9 to 17 years of age, (3) pregnant women, (4) women 15 to 44 years of age, (5) men 18 to 44 years of age, and (6) all individuals 45 to 64 years of age.

²⁸ Even the March Supplement of the CPS has too few cases to provide state-level estimates on Medicaid beneficiaries for small states (Bureau of the Census 1992).

²⁹ The effective sample size is the number of observations from a simple random sample that would produce the same standard error as the complex sample.

³⁰ In addition to the problems of sample size, there is a danger that PSUs might not be representative of the state (e.g., an urban PSU in a rural state).

(e.g., use of services and satisfaction measures). Surveys are an especially rich source of information on barriers that may preclude use of services when they are needed. These barriers may be financial, cultural, or organizational.

The surveys reviewed here are rich in item content applicable to measuring access for the Medicaid population. The breadth and depth of items included in these four surveys, the extensive testing involved in their development, and the fact that they can support comparisons against other populations suggest that should a separate Medicaid access survey be developed, it should build on existing items when possible (particularly from the National Health Interview Survey), rather than develop new items. Patient or consumer satisfaction is a possible exception; although well-tested items exist, these have not been included in the existing national surveys and there is less consensus on appropriate item content for this area than for others (Davies and Ware 1991).

This section reviews item content for four categories of access measures used in existing surveys: usual source of care, barriers to care, use of medical and hospital services, and use of specific services for particular conditions. It also reviews the content of health status items, a topic essential to interpreting and comparing access measures. Measures of satisfaction with care will be reviewed later.

Usual Source of Care. Usual source of care questions have served as critical indicators of whether medical attention will be available when need arises. This is because the usual source of care may affect whether care is received, the mix of services provided, the degree of continuity, the appropriateness of treatment, the cost of care, and consumer satisfaction (Andersen et al. 1987). NHIS, SIPP, and NMES asked whether the respondent has a usual source of care and the type of the usual source of care. Expanding the typical measures, NHIS and the NMES Access Supplement included questions on whether the respondent had a usual provider, the travel time to usual source of care, and length of waiting times. The NMES Access Supplement also included a question on operating hours of the usual source.

There are differences, however, among these surveys in the treatment of the usual source of care. For example, the number and type of categories used to describe usual source of care vary across the surveys. In particular, the characterization of health maintenance organizations has been inconsistently handled by the surveys. This is an important issue to address given the increasing use of managed-care arrangements in many Medicaid programs.

Barriers to Care. Refining the usual source of care measures, NMES and the 1992 version of NHIS explored delays in seeking care and barriers to care. Both surveys obtained from those respondents without a regular source of care the reasons for this, as well as travel and waiting times for care. In addition, NMES asked whether respondents were unable to obtain care and the reasons for that inability, and whether the provider could speak the respondents' native language.

Physician and Hospital Utilization. Basic information on utilization of physician visits and hospitalization is commonly used in evaluating access. In examining physician and hospital visits, NHIS is the most comprehensive of the surveys reviewed. NHIS asks the length of time since the last visit, the number of visits over a two-week period, the particular condition related to the visit, and the site of the visit. It also asks for hospitalization and the reasons for hospital stay during the past 13 months, and date of the last hospitalization.

Specific Services for Particular Conditions. The ability to use these surveys to examine the delivery of specific services for particular conditions varies. Prenatal, postnatal, and baby care were assessed only by NMIHS. Vaccination was covered by NMIHS, the 1992 version of NHIS, and NMES. Women's preventive care was covered in the NMES and the 1992 version of NHIS.

Health Status Measures. As mentioned in the discussion of claims data, comparisons of access to health care across groups requires measuring health status. Health status adjustments are particularly important when interpreting differences in utilization rates because one would expect that sicker persons need, and therefore use, more services.

Health status measures used in surveys include patients' perceptions and behavioral indications of whether health problems have limited physical or role functioning (Andersen et al. 1987). Although their scales differ slightly, NHIS, SIPP, and NMES directly ask the respondents about their perceived health status. Additionally, NMES asks respondents to rank a series of statements about their health status.

The level of disability is also captured by these surveys. NHIS, NMES, and SIPP contain questions on the number of days that the respondent was bed-ridden in the last 12-month period. Questions on health problems or impairments that limit working at a job, doing housework, attending school, or engaging in play are also included.

Developing Item Content for a Medicaid Access Survey

If a stand-alone Medicaid access survey is developed, it should be constructed primarily of items from the NHIS because of this survey's breadth. NHIS consists of a core set of questions supplemented by sets of questions on special topics. In recent years, access and insurance items have been included annually or biannually. The specific content of these items has varied over time, however.

NHIS currently is being redesigned to have a smaller core survey content, with a rotating use of supplemental items. This redesign may provide an opportunity to modify items, such as usual source of care, or to expand items to address critical comparison areas for a Medicaid access survey, such as barriers to access, delays in obtaining access, or satisfaction measures. On the other hand, since the redesign will restrict the number of items fielded annually, it

may reduce the opportunity to pool multiple years of data. Any effort to develop a Medicaid access survey thus should include a plan to coordinate with NCHS.

Items from the other surveys may also need to be used. Because some access measures such as questions on delays and barriers to seeking care are not included in NHIS, for instance, questions from NMES on these topics could be used. SIPP can provide alternative content for economic and insurance topics. NMIHS could contribute useful content for measuring prenatal and well-baby care.

Survey Design

Reviewing these four surveys provides an opportunity to learn about challenges in design that must be considered in developing and pilot testing a Medicaid access survey. Several different types of challenges are considered: those related to the program itself, those related to its beneficiaries, and those generic to survey research. Design features affecting the usefulness of surveys to inform policymakers are also discussed.

Program Characteristics. Experience with existing surveys suggests that there could be difficulties in constructing an appropriate sampling frame for a Medicaid access survey. Because no centralized data source exists, there may be inconsistencies and weaknesses in collecting eligibility information from the states. Confidentiality concerns may present another hurdle to determining a sampling frame. Finally, the frequent turnover in Medicaid eligibility means that a useful Medicaid sampling frame will require very timely data. States will be contacted later in this project to explore these issues and to determine whether alternatives to a state-based eligibility file sampling frame should be considered.

State cooperation would be important to survey success. Cooperation is necessary to gain access to eligibility files for constructing a sampling frame; it may also be needed to verify eligibility or basic data on survey respondents. For example, to conduct Medicaid household surveys in California, Michigan, New York, and Texas as part of the NMCUES, survey staff directly contacted these state Medicaid programs.³¹ In addition, some incentives were provided to secure cooperation.

Beneficiary Characteristics. The unique characteristics of the Medicaid population have consequences for survey design, implementation, and accuracy. First, the Medicaid beneficiary is typically poorer, younger or older, and often sicker than the rest of the U.S. population (Oliver et al. 1980; Wilensky et al. 1989). Second, the Medicaid population is a difficult group to survey because of frequent changes of status and location, language barriers, disability, low literacy, and higher-than-usual substance abuse.

³¹ In New York, survey staff had to contact county officials as well.

The short-term eligibility of many Medicaid beneficiaries also complicates survey design. Ideally, the information collected by the survey should correspond to a period of consistent Medicaid eligibility. Restricting the survey only to people continuously eligible over a year may generate the most sensitive measures of access, but it may provide an incomplete measure of the Medicaid experience.

Encouraging Medicaid beneficiaries to participate in the survey is important to its success. Experience suggests that an advance letter, introductory brochure, reminder calls, and perhaps financial incentives are important in encouraging participation. The legality of providing financial incentives, the size of the incentive, and cost of incentives are outstanding issues that could be explored.

In-person interviews would be the most successful mode with this population. Both the complexity of content and the desire for a high response rate argue against a mail survey approach to measuring Medicaid access. Although a telephone survey would be effective, in-person follow-up will be very important to ensure a high and unbiased response because a large proportion of the Medicaid population does not have phones or listed numbers. Moreover, because most recall aids have been developed for in-person administration, a telephone mode would reduce the ability to use such aids to encourage accurate reporting.

Locating respondents may also be difficult. Low-income individuals and families move more often than the rest of the population. Eligibility lists typically have a name and address but no telephone numbers. While automatic tracing systems can help in finding telephone numbers, assistance from local post offices may be needed to identify apartment numbers and to identify a street address from a post office box number. Experience with existing surveys suggests that if a panel design is used, respondents should be asked at the baseline interview to provide names and addresses of two relatives or friends who are expected to know where the respondent will be at the time of the survey. Willingness to release this information could be tested as part of the pilot.

Generic Methodological Issues. In designing a Medicaid survey two major methodological issues need consideration: recall problems and the use of proxy or self-reports.

Recall Error. Recall error figures prominently in survey research. These include both the tendency of respondents to report events in the wrong time period and the inability of respondents to recall all of the relevant events. If the recall period is too long, routine events may be forgotten and Medicaid participation may be underreported. On the other hand, if it is too short, major events (such as hospitalizations) may be reported even though they occurred before the recall period.

Recall problems have been a major factor in determining the periodicity and mode of data collection. Recall can be improved by shortening the recall period; using calendars or diaries;

and, if the survey is a panel design, providing information from the previous period. For the purposes of a Medicaid access survey, the optimal recall period would be every three or four months for a year. This would require substantial resources, however.

Use of Self-Reported Data. Self-reported information is the most desirable, especially for pregnant women for whom some items could be sensitive and not known by a proxy. On the other hand, proxy respondents will be necessary for some Medicaid beneficiaries who cannot answer questions themselves, particularly children and some disabled adults. Differences between responses provided by proxies and by self-report could be tested to identify those areas most likely to be biased by proxy responses.

Usefulness of Data. The usefulness of survey data depends upon their timeliness, the appropriateness of comparison groups, and item content. Of the four surveys reviewed, NHIS provides the most timely data. Data are made available one year after collection.³² This contrasts with a two-year period for other surveys. In addition, the NHIS provides the best source of data for comparison groups because it is conducted annually. None of the four surveys provides an optimal set of access measures, although comparison data could be constructed by combining data from various surveys.

Work Plan

In the year ahead, work will proceed on development of a pilot Medicaid access survey. Informed by experience of other surveys, this pilot will assess the feasibility of conducting a national Medicaid survey and evaluate the validity of measures. It will also lead to estimates of the cost of conducting a national survey or a Medicaid supplement to an ongoing national survey that could be conducted by the Health Care Financing Administration, the Agency for Health Care Policy and Research, or the National Center for Health Statistics. After the pilot is completed, the Commission will consider whether to recommend the development of such a survey.

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MEDICAID PAYMENT POLICIES FOR NONPHYSICIAN PRACTITIONER SERVICES

The Commission's work on Medicaid during the past few years has focused on policies to improve access to care for program beneficiaries. Beginning in 1990, it conducted a study on the adequacy of Medicaid physician payment rates and analyzed how Medicaid fee levels affect both beneficiary access and program expenditures. The Commission endorsed raising Medicaid payments to physicians to Medicare levels. But because payment levels are not the only factor affecting physicians' decisions to accept Medicaid patients, the Commission has also considered other policy measures that could improve access to care. In its *Annual Report to Congress 1992*, the Commission assessed the extent to which alternative delivery systems located in communities where Medicaid beneficiaries live could facilitate access and the potential of managed care arrangements to improve access and continuity of care (PPRC 1992). This year, in addition to analyzing quality assurance methods within Medicaid managed care and exploring how Medicaid access can be measured, the Commission returned to issues of adequate practitioner participation as a means to improve access by studying payment policies for nonphysician practitioners (NPPs).

During the 1980s, the Congress expanded access to care for Medicaid beneficiaries, targeting mothers and children in particular. As part of this effort, NPP payment policies were enacted requiring states to open provider enrollment to certified nurse-midwives (CNMs) and family and pediatric nurse practitioners (NPs), and to permit direct billing and payment for their services. Although states have always had the option to pay for NPP services, federal mandates led many states to evaluate NPP payment policies and their potential effect on access to primary and maternal care services.

To better understand the status of Medicaid NPP payment and service coverage, the Commission surveyed states on their payment policies. The study was designed specifically to determine whether state Medicaid payment policies were enabling or restricting the participation of NPPs as primary and maternal care providers. Therefore payment policies related only to those nonphysician practitioners who are most likely to provide these services were examined: NPs, CNMs, and physician assistants (PAs).

Survey results indicate that many states have responded to the federal Medicaid mandates by establishing nonrestrictive payment policies that enable CNMs and NPs to participate fully in the program. Many states have also expanded their programs to include nonphysician practitioners other than those required by the mandates. Furthermore, state Medicaid NPP policies are, in many ways, less restrictive than Medicare's policies. That these changes have occurred despite rising Medicaid expenditures may indicate both the

need for participating practitioners and states' willingness to recruit NPPs as primary and maternal care providers.

Not all states have been as receptive to NPP policy expansions, however, as evidenced by policies that limit NPP coverage or payment to certain services or to directly supervised settings. Working within budget-neutral constraints in many cases, states have not included additional nonphysician practitioners or expanded NPP service coverage, given the budgetary cuts in other areas of the program such policy changes might necessitate. Because states are increasingly burdened with growing Medicaid expenditures, further federal mandates need to be carefully weighed against their anticipated costs.

To provide a context for the Commission's survey findings, this chapter first reviews Medicare and federal Medicaid mandates for nonphysician practitioner coverage and payment. It then summarizes the survey results, describing the extent to which Medicaid policies facilitate beneficiaries' access to NPP services and pointing out payment policies that may limit access to these practitioners.

FEDERAL PAYMENT POLICY FOR NONPHYSICIAN PRACTITIONERS

In the late 1970s, the Medicare and Medicaid programs began to specify payment policies for NPP services. For the most part, both Medicare and federal Medicaid mandates have been in response to perceived access problems for specific groups of beneficiaries (Tables 16-1 through 16-3). In addition, states have always had the discretion to expand coverage of NPP services beyond the federal Medicaid policies to meet the state's unique needs.

Since the beginning of the Medicare and Medicaid programs in 1965, services performed by health professionals and allied health personnel employed in physicians' practices have been covered, with payment going to the employer. Known as the "incident to" provision, this policy allows payment of the full physician fee for office or clinic services provided by the physician's staff that are integral, although incidental, to the physician's services. The services must be provided under the direct (on-site) supervision of a physician and therefore are paid for as if the physician had provided them personally. Because the incident to provision predates the development of most of the NPP programs, it does not specifically address payment for NPPs employed in physicians' offices. Most state laws governing the scope of professional practice for PAs, NPs, and CNMs (commonly referred to as practice acts) do not require on-site supervision by physicians. Many NPPs, however, are employed in physicians' offices and clinics. Their services thus may be billed as physicians' services under the incident to provision. In other words, the NPP's employment situation frequently determines the payment method.

When Medicare and federal Medicaid payment policies began to specifically distinguish NPPs, they were targeted to address beneficiary needs in underserved rural areas. The Rural

Table 16-1. Federal payment policies for nurse practitioners

Medicare Part B		Federal Medicaid mandates	
Service	Payment method	Service	Payment method
Rural health clinic services (P.L. 95-210, 1977)	Pays clinic reasonable cost, or included in all-inclusive rate for clinic services	Rural health clinic services (P.L. 95-210, 1977)	Pays clinic reasonable cost, or included in all-inclusive rate for clinic services
Services to homebound patients in areas without home health agency (P.L. 95-210, 1977)	Pays employer at physician fee level	Services provided by certified pediatric and family nurse practitioners (OBRA89, P.L. 101-239)	Pays nurse practitioner or employer at payment rate determined by state
Services in HMO & CMPs ^a that have risk-sharing contracts with HCFA (TEFRA, P.L. 97-248)	Capitated payment to HMO or CMP		
Services provided in nursing facilities (OBRA89, P.L. 101-239)	Pays employer; amount not to exceed 85% of physician fee		
Services provided in all rural settings (OBRA90, P.L. 101-508)	Pays nurse practitioner or clinical nurse specialist; hospital services not to exceed 75% of physician fee; other services not to exceed 85% of physician fee.		

^aCompetitive Medical Plan (CMP)

Source. Commission compilation of federal laws.

Health Clinic Services Act of 1977 (RHCSA) made freestanding rural clinics staffed by NPs, PAs, or CNMs eligible for Medicare and Medicaid payments. This was the first federal policy to specify NPP coverage and to separate it from the requirement of employment in a physician's practice. Nonphysician practitioner payment is based either on a reasonable cost formula, or NPP salaries are bundled into the all-inclusive rates for clinic services. The clinic must be located in a Health Professional Shortage Area (HPSA); an NPP must be available at least 50 percent of the time the clinic is open; and a physician must provide general direction, with a site visit at least once every two weeks.

Medicare and federal Medicaid policy changes that followed the Rural Health Clinic Services Act also specified particular NPP services or settings without requiring on-site physician supervision (when allowed by state practice acts). Unlike the RHCSA, changes in Medicare and federal Medicaid NPP payment policy have not been simultaneously enacted and are quite different for each program.

Table 16-2. Federal payment policies for certified nurse-midwives

Medicare Part B		Federal Medicaid mandates	
Service	Payment method	Service	Payment method
Rural health clinic services (P.L. 95-210, 1977)	Pays clinic reasonable cost, or included in all-inclusive rate for clinic services	Rural health clinic services (P.L. 95-210, 1977)	Pays clinic reasonable cost, or included in all-inclusive rate for clinic services
Services provided by a CNM to the extent the service would be covered if furnished by a physician. Services restricted to maternity cycle. No restriction on site of service. (OBRA87, P.L. 100-203)	Pays certified nurse-midwife if self-employed. If not, pays employer. Not to exceed 65% of physician fee	Services provided during maternity cycle (OBRA80, P.L. 96-499)	Pays certified nurse-midwife or employer at rate determined by state

Source. Commission compilation of federal laws.

Medicare NPP Payment Policies

Generally, Medicare payment policies for NPP services have been quite specific about the geographic or practice settings where such services are covered. For example, Medicare statutes were amended to allow coverage of particular services, including those provided by PAs and NPs, to homebound patients living in areas without home health agencies. Payments for all home care services in these areas are made to the employer at the full physician fee level.¹

Federal support for services provided by PAs in hospitals and nursing facilities was authorized in the Omnibus Budget Reconciliation Act of 1986 (OBRA86), which allowed Medicare Part B payments to be made to the employing practice group or institution. This provision did not cover PA services in ambulatory or clinic settings. Payment rates were established at 85 percent of the physician fee for nursing facility services, 75 percent for hospital care, and 65 percent for assistance at surgery. With growing concern about access to care for beneficiaries in nursing facilities, Medicare in OBRA89 expanded coverage in such settings to include nurse practitioners. As with the PA provision, payment is made only to the employer and is not to exceed 85 percent of the physician's fee.

The most recent changes in Medicare NPP payment policy expanded coverage significantly in another effort to address perceived access problems in rural areas. First, all PA services provided to beneficiaries in rural Health Professional Shortage Areas were covered in

¹ Self-employed NPPs are not paid under this provision.

Table 16-3. Federal payment policies for physician assistants

Medicare Part B		Federal Medicaid mandates	
Service	Payment method	Service	Payment method
Rural health clinic services (P.L. 95-210, 1977)	Pays clinic reasonable cost, or included in all-inclusive rate for clinic services	Rural health clinic services (P.L. 95-210, 1977)	Pays clinic reasonable cost, or included in all-inclusive rate for clinic services
Services to homebound patients in areas without home health agency (P.L. 95-210, 1977)	Pays employer at physician fee level		
Services in HMO & CMPs ^a that have risk-sharing contracts with HCFA (TEFRA, P.L. 97-248)	Capitated payment to HMO or CMP		
Hospital & nursing facility services if such services would be covered if furnished by physician (OBRA86, P.L. 99-509)	Pays employer. Hospital services not to exceed 75% of physician fee; 65% of physician fee for assisting at surgery; nursing facility services not to exceed 85% of physician fee		
Services provided in rural HPSAs (OBRA87, P.L. 100-203)	Pays employer at 85% of physician fee		

^aCompetitive Medical Plan (CMP).

Source. Commission compilation of federal laws.

OBRA87. As with other payment policies for PAs, the employer is paid; in this case, a payment level of 85 percent of the physician fee was established. In amendments enacted under OBRA90, nurse practitioners and clinical nurse specialists (CNSs) for the first time were permitted to bill Medicare directly, without an employer intermediary, for all services provided in a rural setting.² Payment levels were set at 75 percent for hospital care and 85 percent for all other services.

The precedent for Medicare payment to advanced practice nurses had been set in OBRA87 when CNMs were permitted to bill directly for their services.³ The payment level at that time was established at 65 percent of the physician fee. Unlike previous Medicare amendments,

² Clinical nurse specialists are registered nurses prepared with master's degrees in a specific clinical field of nursing.

³ Advanced practice nurse is a broad term used to describe a registered nurse who has met advanced educational and clinical practice requirements beyond the two to four years of basic nursing education.

this policy placed no restriction on the site of service; however, it did limit coverage to only those services provided during the maternity cycle.⁴ Certified nurse-midwife services, such as routine gynecologic examinations, therefore, are not covered for nonpregnant women.

Because Medicare policy has expanded NPP coverage primarily to meet the needs of beneficiaries in rural areas, NPPs have been restricted in their ability to furnish services to underserved populations in urban areas. For example, PA services delivered in inner-city clinics or offices are not covered unless they are incident to the physician's service and thus require physician supervision. Although nurse practitioners can bill Medicare directly for hospital and outpatient services in rural areas, they cannot do so for similar services provided in urban areas. Medicare only covers NP services in urban areas when they are incident to physician services, or when the NP is employed by (and therefore is not billing or receiving payment directly) a health maintenance organization with a Health Care Financing Administration contract or a nursing facility.

Federal Medicaid NPP Payment Policies

Compared with Medicare, the Medicaid program has relatively few federal NPP payment policies. For example, other than the Rural Health Clinic Services Act, there are no federal Medicaid mandates that specify coverage for PA services. States have always been able to enroll NPPs as practitioners, however. As an optional service, a state may cover medical care or any other type of remedial care furnished by licensed practitioners as long as this care falls within the scope of state practice acts. States choosing to expand coverage of NPP services beyond federal mandates can receive federal matching dollars.

Two federal Medicaid mandates have been enacted to expand Medicaid payment for CNM and NP services beyond rural health clinic coverage. In OBRA80, CNMs were given the option of billing directly for their services or through their employer.⁵ As part of the OBRA89 Medicaid amendments to expand access to pregnant women and children, certified pediatric and family nurse practitioners were also allowed to bill directly for their services. Payment rates for both CNMs and NPs, however, are determined state by state and vary considerably.

SURVEY DESIGN AND FINDINGS

The Commission surveyed state Medicaid programs to determine whether their current payment policies were fostering or impeding the use of NPPs for maternal and primary care services.⁶ The survey focused on these fundamental policy questions:

⁴ The maternity cycle is the period limited to pregnancy, labor, birth, and the postpartum period of up to six weeks.

⁵ Unlike Medicare, state Medicaid programs have always had the option to cover CNM services outside of the maternity cycle.

⁶ The survey was conducted in collaboration with the Intergovernmental Health Policy Project.

- Are there restrictions on covered NPP services? For example, is coverage limited to certain practice settings, types of service, or underserved areas?
- How is payment made for services provided by NPPs? Can NPP services be identified on claim forms? Are states paying NPPs at the full physician fee level or a differential rate for services?
- Have states added other NPPs to provider rolls besides those required by federal mandates?
- Do Medicaid payment policies require physician supervisory relationships that differ from professional practice acts?

Questionnaires were mailed to the 50 state Medicaid program directors in October 1992; 47 states responded. After the questionnaires were returned, all respondents were contacted by telephone to clarify and gather further information about specific payment policies.

Overview of the Findings

State Medicaid programs have significantly expanded NPP service coverage and payment in the following ways:

- State Medicaid policies, unlike those of Medicare, do not limit coverage to rural settings. NPP services are covered in all regions of a state.
- State Medicaid policies, like Medicare, do not restrict coverage of CNM services to traditional settings. Certified nurse-midwife services provided in birthing centers are paid in nearly all states where such facilities exist.
- More than half the states that pay NPs and CNMs directly do so at the full physician fee level. All states, except for one, pay CNMs a percentage rate that exceeds Medicare's level; two-thirds of the states pay NPs more than 85 percent of the physician fee.
- Although Medicaid mandates require only family and pediatric nurse practitioner coverage, more than half the states have allowed other types of nurse practitioners to participate as well.

While these policies demonstrate substantial efforts to expand NPP participation, other state policies were identified that potentially impede this participation.

- Several Medicaid programs do not cover PA services to the extent that their practice acts would allow.

- A few states have yet to meet the 1989 federal Medicaid requirement of payment for family and pediatric nurse practitioners, primarily because NPs were not clearly distinguished from other registered nurses in the state's nurse practice act. Although 26 states have exercised the option to enroll other types of nurse practitioners as Medicaid providers, 21 states have not done so.
- Some states do not pay NPPs for all the Medicaid-covered services they are licensed to provide.

Medicaid Payment Policies for Physician Assistants

Both Medicare and Medicaid payment policies for physician assistant services reflect the fact that PAs, by virtue of their practice acts, do not work independently from physicians and are not self-employed. Perhaps because of this — and since no federal Medicaid mandate (other than the Rural Health Clinic Services Act) requires states to cover PA services — more than half of states have not developed specific regulations for PA coverage.

Whether a state has specific PA coverage policies or not, Medicaid programs generally are covering all types of PA services, as long as the services are normally covered by their plans when provided by a physician.⁷ Furthermore, unlike Medicare statutes, Medicaid regulations do not restrict coverage of PA services or the services of any other NPP to certain regions of the state, such as rural areas or Health Professional Shortage Areas. Generally, the amount, duration, and scope of Medicaid program benefits must be the same statewide.

Like Medicare, nearly all state Medicaid programs make payment only to the employer for the services PAs provide. Montana and South Dakota are the only states that give PAs the option to bill directly for their services. Physician assistants in these states use unique identification numbers when submitting Medicaid claims and receive a standard percentage of the physician's fee for each service.

While not allowing PAs to bill directly, 19 states use either a unique provider number or a service code modifier to identify PA services on claim forms. In 11 of these states, the modifier makes no difference in the payment the employer receives; in the remaining 8 states it triggers a percentage payment (often referred to as a differential payment rate) ranging from 50 percent to 90 percent of the physician fee. Some states apply the differential rate for particular services, such as those furnished in the hospital. Others apply the differential to those PA services that are not provided incident to the supervising physician's services (Table 16-4).

More than half the state Medicaid programs have not developed a specific payment policy for PAs. Of course, PA services are covered in such states when provided as incident to physician

⁷ Only four states indicated that certain Medicaid services were not covered when performed by a PA. Three states indicated they do not cover PA surgical assistant services, and one state limits PA coverage to primary care services.

Table 16-4. Medicaid payment differentials for nonphysician practitioners, by state, 1992

Percentage of physician fee

State	PA	CNM	F/P NP	State	PA	CNM	F/P NP
Alabama	...	80	80	Montana	80	80	80
Alaska	...	100	100	Nebraska	...	100	100
Arizona ^a	100 ^b	60	100	Nevada	n.a.	n.a.	n.a.
Arkansas	...	80	80	New Hampshire	100	100	100
California	100	100	^c	New Jersey	...	70	^c
Colorado	100	100	100	New Mexico	100	100	90
Connecticut	...	90	90	New York	100	100	100
Delaware	...	100	100	North Carolina	...	100	100
Florida	...	80	80	North Dakota	50	75	75
Georgia	90	100	90	Ohio	85 ^g	100	...
Hawaii	...	75	75	Oklahoma	...	100	100
Idaho	n.a.	n.a.	n.a. ^c	Oregon	100	100	100
Illinois	...	70	^c	Pennsylvania	...	100	100
Indiana	...	75	75	Rhode Island	n.a.	n.a.	n.a.
Iowa	^d	80	80	South Carolina	...	80 ^g	80
Kansas	75	75	75	South Dakota	90	100	90
Kentucky	...	75	75 ^c	Tennessee	^h	90	...
Louisiana	...	100	^c	Texas	...	70	70
Maine	100	100	100	Utah	100	ⁱ	
Maryland	100	^e	100	Vermont	...	100	100
Massachusetts	...	100	100	Virginia	...	100	100
Michigan	...	100	100	Washington	...	100	100
Minnesota	90	100	^f	West Virginia	...	100	100
Mississippi	...	90	90	Wisconsin	80	80	100
Missouri	...	100	100	Wyoming	100 ^b	100	100

... No specific state policy.

n.a. No data available.

^aNPP payment methods are for the rare fee-for-service settings in Arizona's capitated Medicaid program.

^bModifier used only for assistants-at-surgery.

^cPolicy currently being developed

^dDifferential varies depending on service: hospital - 75%, nursing facility - 85%, assistants-at-surgery - 65%

^e70% for pre-and postnatal care; all other services 100%

^fPhysician-employed NPs are paid 65% with modifier use required; all other NPs receive 90%.

^gDifferential limited to specific services

^h60% for PA hospital and nursing facility services; others paid 100%

ⁱSeparate CNM fee schedule

Source. 1992 Commission survey of Medicaid programs.

services. In 19 states where the incident to provision is strictly interpreted, Medicaid policy essentially requires on-site physician supervision of services for payment purposes.⁸ In most of these states, however, the professional practice act does not require direct supervision. Rather, it allows PAs to work in off-site or remote supervisory arrangements with physicians. Consequently, Medicaid payment policy is more restrictive than state PA practice acts in 16 states (Table 16-5).

Table 16-5. Physician supervision required for Medicaid coverage of physician assistant services, by state, 1992

State	On-site	Off-site	Restrictive policy	State	On-site	Off-site	Restrictive policy
Alabama ^a	✓			Montana		✓	
Alaska	✓		✓	Nebraska		✓	
Arizona		✓		Nevada	n.a.		
Arkansas	✓		✓	New Hampshire		✓	
California		✓		New Jersey ^a	✓		
Colorado	✓		✓	New Mexico		✓	
Connecticut	✓		✓	New York		✓	
Delaware		✓		North Carolina		✓	
Florida	✓		✓	North Dakota		✓	
Georgia		✓		Ohio		✓	
Hawaii	✓		✓	Oklahoma	✓		✓
Idaho	n.a.			Oregon		✓	
Illinois		✓		Pennsylvania	✓		✓
Indiana ^a	✓			Rhode Island	n.a.		
Iowa		✓		South Carolina ^a	✓		
Kansas		✓		South Dakota		✓	
Kentucky	✓		✓	Tennessee	✓ ^c	✓ ^d	✓
Louisiana	✓		✓	Texas	✓		✓
Maine		✓		Utah		✓	
Maryland ^a	✓			Vermont	✓		✓
Massachusetts	✓		✓	Virginia	✓		✓
Michigan		✓		Washington		✓	
Minnesota	✓ ^b		✓	West Virginia		✓	
Mississippi ^a	✓			Wisconsin		✓	
Missouri ^a	✓			Wyoming		✓	

n.a. No data available.

^aPA practice act requires on-site physician supervision

^bMinnesota requires on-site supervision 50% of the time

^cFor office and clinic services

^dFor hospital and nursing facility services

Source. 1992 Commission survey of Medicaid programs.

⁸ Although a state may require on-site supervision in all other settings, PAs in rural health clinics or federally qualified health centers are not required to be directly supervised according to federal Medicaid mandate.

Medicaid programs recognize that restricting coverage of PA services to directly supervised settings limits the volume of services and patients the physician-PA team can manage. One state Medicaid official summarized the situation as one in which states may want to increase the number of participating practitioners, including NPPs, but cannot currently afford the costs associated with improved access. Although federal mandates have opened provider enrollment for NPs and CNMs, discretionary state Medicaid regulations for PAs are not likely to be changed unless they are budget neutral.

Medicaid Payment Policies for Nurse Practitioners

Of the 47 states responding to the survey, 41 currently allow family and pediatric nurse practitioners to bill directly for their services (Table 16-6). The federal mandate requires programs to do so only in accordance with other state laws, such as professional practice acts. In some states, complying with the intent of the direct payment mandate was complicated by the fact that nursing practice acts did not distinguish between NPs and other registered nurses. These states have had to either clarify the nursing practice act or develop new Medicaid regulations. Because of this, six states still do not allow NPs to bill directly for their services; four of these states are developing regulations in order to meet the federal requirement.

The federal Medicaid mandate requires states to pay only for family and pediatric NP services, but more than half the responding states also pay for services provided by other types of NPs as well. Policies in seven states permit payment to obstetric-gynecological NPs or neonatal NPs in addition to family and pediatric NPs. An additional 19 states allow all types of NPs to participate in Medicaid, making no distinction about what kind of nurse practitioner can receive payment. A few states also pay for services provided by clinical nurse specialists.

When asked why a state chose to allow other NPs to participate in addition to family and pediatric NPs, Medicaid staff expressed program concerns about an inadequate supply of participating physicians and their view that NPs serve as substitutes for physicians. Furthermore, because the purpose of the OBRA89 NPP provision was to improve access for Medicaid beneficiaries, a variety of nurse practitioners could be enlisted, particularly those specializing in women's health, neonatal care, and school health services.

By contrast, some of the states enrolling only family and pediatric NPs commented that even though NPs may prove to be cost-effective substitutes for physicians, they could not currently afford to improve access to care by adding other types of NPs. A few states also commented about significant political tension between state medical associations and nursing organizations (including public health departments that employ NPs) whenever the Medicaid program considers adding advanced practice nurses to provider rolls.

Medicaid programs can vary the kinds of services they will cover depending on the type of practitioner. States, therefore, have the option to pay for only some of the services practitioners are legally capable of providing (as determined by professional practice acts).

Table 16-6. Direct Medicaid payment for advanced practice nurses, by state, 1992

State	F/P NP (mandated)	Other NP (optional)	CNS (optional)	State	F/P NP (mandated)	Other NP (optional)	CNS (optional)
Alabama	✓	a		Montana	✓	✓	
Alaska	✓			Nebraska	✓		
Arizona	✓	✓		Nevada	n.a.		
Arkansas	✓	a		New Hampshire	✓		
California	b			New Jersey	b		b
Colorado		✓		New Mexico	✓	✓	
Connecticut	✓			New York	✓	✓	
Delaware	✓	✓		North Carolina	✓	✓	
Florida	✓	✓		North Dakota	✓	✓	
Georgia	✓	a		Ohio			
Hawaii	✓			Oklahoma	✓	✓	
Idaho	n.a.			Oregon	✓	✓	
Illinois	b			Pennsylvania	✓	✓	
Indiana	✓			Rhode Island	n.a.		
Iowa	✓			South Carolina	✓	✓	
Kansas	✓	✓	✓	South Dakota	✓	✓	
Kentucky	✓	✓	✓	Tennessee			
Louisiana	b			Texas	✓		
Maine	✓			Utah	✓		
Maryland	✓	✓		Vermont	✓		
Massachusetts	✓	✓		Virginia	✓		
Michigan	✓			Washington	✓	✓	
Minnesota	✓	a		West Virginia	✓		
Mississippi	✓	a		Wisconsin	✓	✓	✓ ^c
Missouri	✓	a		Wyoming	✓	a	

n.a. No data available

^aCoverage for only specific types of nurse practitioners

^bRegulations currently being developed

^cWisconsin pays CNSs for primary care services only.

Source. 1992 Commission survey of Medicaid programs.

For example, Medicaid programs may cover hospital visits performed by physicians, but not by nurse practitioners. Only a few states restrict NP coverage to particular services.⁹ In most states, Medicaid pays NPs for all services covered in their plans, regardless of the setting, as long as the services are also within the NP's scope of practice.

Medicaid policies in a large majority of states either allow the NP to practice independently or require the NP to establish a collaborative relationship with a physician.¹⁰ Only nine states indicated that Medicaid policy requires a supervised relationship between a nurse practitioner and physician; in seven of these, it is an off-site supervision requirement. Either Medicaid policy was consistent with the nursing practice act in these states or the practice act was silent on this point, leaving the Medicaid program to determine the appropriate physician relationship. For the two states that do not allow NPs to bill directly (Ohio and Tennessee), NP services are covered only when performed under direct supervision of the billing physician, i.e., as incident to the physician's services.

Medicaid Payment Policies for Certified Nurse-Midwives

All states are in compliance with the 1980 federal mandate that allows CNMs to bill directly for their services. Half of the responding states indicated their programs pay for any services in their plans that also are within the scope of CNM practice. In these states, besides maternity care, family planning and routine gynecological services for nonpregnant women are also paid for when performed by CNMs. Fifteen programs only pay CNMs for services provided during the maternity cycle; however, another eight states limit Medicaid coverage to maternity and family planning services (Table 16-7). Although maternity services constitute the bulk of nurse-midwifery practice, state CNM policies that do not cover services such as gynecological examinations do create a payment barrier to regular preventive services for Medicaid women.

Medicaid policy concerning physician supervision requirements does not appear to be more restrictive than the nursing practice act in any state. As with NPs, most state Medicaid policies pay for CNMs who practice in either collaborative or independent relationships with physicians. In seven states where the nursing practice act specifically requires off-site supervision or is silent regarding the amount of physician supervision, Medicaid payment policy requires such supervision as a condition of payment. No state requires on-site supervision of CNMs.

⁹ Seven states specify particular Medicaid services that are not covered when performed by NPs. For example, Michigan and Pennsylvania will cover NP services only when provided in ambulatory settings and Wisconsin and West Virginia will pay only for primary care services.

¹⁰ A collaborative arrangement is one in which the physician is not legally responsible for the NP's practice. Instead the two practitioners establish a referral mechanism so that the patient's care can be appropriately transferred to the physician when needed. Sometimes, the practice act may stipulate that the NP and physician establish protocols or guidelines for management of common problems and describe appropriate referral situations.

Table 16-7. Coverage of Medicaid services by certified nurse-midwives, by state, 1992

State	All services covered	Maternity/family planning services	Maternity services only	State	All services covered	Maternity/family planning services	Maternity services only
Alabama		✓		Montana	✓		
Alaska		✓		Nebraska	✓		
Arizona	✓			Nevada	n.a.		
Arkansas			✓	New Hampshire	✓		
California	✓			New Jersey			✓
Colorado	✓ ^a			New Mexico		✓	
Connecticut		✓		New York			✓
Delaware	✓			North Carolina	✓		
Florida	✓			North Dakota			✓
Georgia	✓			Ohio	✓		
Hawaii	n.a.			Oklahoma			✓
Idaho	n.a.			Oregon	✓		
Illinois		✓		Pennsylvania		✓	
Indiana			✓	Rhode Island	n.a.		
Iowa			✓	South Carolina	✓		
Kansas	✓			South Dakota	✓		
Kentucky	✓			Tennessee			✓
Louisiana			✓ ^b	Texas			✓
Maine	✓			Utah		✓	
Maryland	✓			Vermont			✓
Massachusetts			✓	Virginia			✓
Michigan	✓			Washington	✓		
Minnesota	✓			West Virginia			✓ ^b
Mississippi	✓			Wisconsin		✓	
Missouri			✓	Wyoming	✓		

n.a. No data available

^aAll services except assistants-at-surgery, mental health, and outreach services.

^bState will also pay for services related to the use of Norplant contraception.

Source. 1992 Commission survey of Medicaid programs.

Certified nurse-midwives practice both in traditional settings for maternity care, such as offices, clinics, and hospitals, and in the nonmedical setting of birthing centers. The majority of states (28) pay for CNM services in freestanding birthing centers (Table 16-8).¹¹ In six of these states, although Medicaid pays the CNM fee, it does not cover the birthing center's facility costs.

¹¹ Freestanding birthing centers have not yet been established in the majority of states without birthing center payment policies.

Table 16-8. Medicaid payment policies for birthing centers, by state, 1992

State	Services covered	CNM fees	Facility costs	State	Services covered	CNM fees	Facility costs
Alabama	✓ ^a	✓	✓	Montana	d		
Alaska	n.a.			Nebraska	d		
Arizona	✓ ^b	✓	✓	Nevada	n.a.		
Arkansas	✓	✓		New Hampshire	a		
California	✓	✓	✓	New Jersey	✓	✓	✓
Colorado	a			New Mexico	a		
Connecticut	a			New York	✓	✓	✓
Delaware	✓	✓		North Carolina	✓	✓	✓
Florida	✓	✓	✓	North Dakota	n.a.		
Georgia	✓	✓	✓	Ohio	b	✓	✓
Hawaii	✓ ^a	✓	✓	Oklahoma	e		
Illinois	a			Oregon	✓	✓	✓
Idaho	n.a.			Pennsylvania	✓	✓	✓
Indiana	✓	✓	✓	Rhode Island	n.a.		
Iowa	✓	✓	✓	South Carolina	✓ ^a	✓	✓
Kansas	✓	✓	✓	South Dakota	a		
Kentucky	✓ ^a	✓	✓	Tennessee	✓	✓	✓
Louisiana	a			Texas	✓	✓	✓
Maine	✓	✓		Utah	✓	✓	✓
Maryland	✓	✓	✓	Vermont	a		
Massachusetts	✓	✓		Virginia	a		
Michigan	✓	✓		Washington	✓	✓	✓
Minnesota	a			West Virginia	✓	✓	✓
Mississippi	✓	✓	✓ ^c	Wisconsin	a		
Missouri	✓	✓		Wyoming	a		

n.a. No data available

^aCurrently, no birthing centers are established in state.

^bHospital-based centers only

^cPays for supplies only

^dMedicaid covers licensed facilities only; specific regulations for birthing center licensure have not been developed.

^ePolicy currently being developed

Source. 1992 Commission survey of Medicaid programs.

Payment Levels for Nurse Practitioners and Certified Nurse-Midwives

Unlike Medicare, many state Medicaid programs pay NPs and CNMs at the same fee level as physicians. These states may be compensating for the fact that their Medicaid physician fee levels are considerably lower than Medicare fees. In 26 states, CNM services are paid at 100 percent of the physician fee level; in 22 states, NPs are paid at 100 percent. Certified nurse-midwives' payment rates in the remaining states range from 60 percent to 90 percent, the

most common being 80 percent of the physician level. Only one state pays CNMs less than Medicare's rate of 65 percent.¹² When less than the physician fee level, the payment levels for nurse practitioners range from 65 percent to 90 percent of the physician level. Only 12 states have set an NP payment rate of less than 85 percent, the Medicare payment level for non-hospital services (Table 16-4).

Whereas most states set a standard percentage payment that applies to both NPs and CNMs, several states pay these practitioners differently. Different rates for NPP services have been negotiated as state regulations were introduced. Several factors contribute to the final decision, including the program's budget for practitioner services, the precedent set by federal policies, when the regulation was introduced, and the activity of local health professional lobbies. The fact that Medicaid physician fees are relatively low in comparison to those of Medicare and private payers may also be a decisive factor in those states where NPPs and physicians are paid equally. Programs may be concerned that a lower fee might adversely affect NPP participation. To determine if there is any relationship between NPP payment levels and physician fees, states were ranked by Medicaid-to-Medicare physician fee ratios. (The states were divided into terciles: above-average, average, and below-average physician fee ratios.) The state policy of paying NPPs either the full physician fee level or a differential rate was compared to its Medicaid-to-Medicare physician fee ranking.¹³

States with below-average Medicaid-to-Medicare physician fee ratios are more likely to pay NPs 100 percent of the physician fee level. Among states with above-average physician fee ratios, nurse practitioners are less likely to be paid the same fee as physicians (Table 16-9). Physician fees and NP payment levels are significantly correlated ($r = -0.36$, $p = .02$). A correlation between CNM payment levels and physician fee levels was not found, however.

Finally, although payment differentials could maximize the cost savings potential of using nonphysician practitioners, differential payments for services provided by NPPs working in physician practices are not made unless the services are billed directly or the claim form identifies who provided the service. Medicaid staff in several states point out that recent changes in Medicaid payment policy for nurse practitioners have not resulted in significant changes in practice arrangements. Given that Medicare and private payers do not consistently cover NPP services, many of these practitioners are likely to continue working as employees in physicians' offices. Because NPs and CNMs have the option to bill Medicaid directly or

¹² Certified nurse-midwives in Arizona are paid 60 percent of the physician fee level when provided in a fee-for-service setting. Services are rarely paid in this manner, however, because nearly all of Arizona's Medicaid beneficiaries are enrolled in managed care systems with capitated payments.

¹³ Urban Institute estimates of the ratio between 1990 Medicaid fees and 1992 Medicare Fee Schedule levels were used (Loprest and Gates 1992).

Table 16-9. Number of states, by nonphysician practitioner payments relative to physician payments

States ranked by ratios of Medicaid-to-Medicare physician fees, in terciles	Nurse practitioners ^a		Certified nurse mid-wives ^a	
	Full fee	Differential	Full fee	Differential
Above average	5	8	9	6
Average	8	8	7	8
Below average	9	2	10	5
Total	22	18	26	19

^aState totals differ because nurse practitioner and certified nurse mid-wife data were not consistently available for all 47 responding states (refer to Table 16-4). Physician fee ratios were not available for Arizona.

Source. 1992 Commission survey of Medicaid programs; Loprest and Gates 1992.

through the employer, there is a financial incentive to bill for services provided in physician offices and clinics as incident to the physician's care, thereby guaranteeing the full physician payment for the service. Any potential cost savings anticipated by setting a differential payment structure for NPPs is diminished unless the state requires NPPs always to use their own claims identifier.

REFERENCES

Loprest, Pamela, and Michael Gates, *Health Care Financing Reform: A State Data Resource* (Washington, D.C.: The Urban Institute, 1992).

Physician Payment Review Commission, *Annual Report to Congress 1992* (Washington, DC: 1992).

APPENDIX A

CAPABILITIES OF PUBLIC AND PRIVATE DATA SYSTEMS

This appendix describes existing capabilities of data systems used in the public and private sectors and supports the discussion of a national data strategy in Chapter 3. In particular, it describes how well current data systems might meet the requirements of health system reform in three areas. First, it considers data capabilities for measuring costs and utilization. Special attention is given to how the Medicare program has developed an increasingly advanced claims data system in recent years. The lessons of that experience may inform the development of a national data system. Second, the use of quality measures by health plans is considered, including how performance measures and enrollee surveys can allow consumers and others to compare plans. Finally, this appendix looks at risk measurement, a task that is critical to combating the effects of plans having a group of enrollees with atypical risk profiles.

MONITORING UTILIZATION AND COSTS

In general, current data systems allow monitoring of utilization and costs either at very aggregated levels through national health expenditures data collected by the Health Care Financing Administration (HCFA) or at more disaggregated levels by specific payers such as Medicare or private insurance plans. Other data sources include abstracts collected in different clinical settings and various population surveys conducted by the federal government.

Federal National Health Expenditures Data

Currently, the federal government — through HCFA's Office of the Actuary — tracks national health expenditures, reporting total spending at the national level (Sonnenfeld et al. 1991; Waldo et al. 1991; Lazenby et al. 1992). HCFA's ability to disaggregate these data is limited, however.

Four types of spending make up the national health accounts (NHA): personal health care services, program administration, government public health activities, and research and construction. The combined values of these categories make up the national health expenditures. The NHA data are based not on the type of service, but on the type of provider

(e.g., hospitals and physicians) or type of product (e.g., pacemakers).¹ To assemble the expenditure estimates, HCFA relies on a variety of external sources. Because of the sources used, estimated expenditures are not easily disaggregated on either a subcategory basis or a state level and cannot be broken down by factors such as type of illness. Finally, some kinds of spending that might be considered health-related (e.g., federal nutrition programs) are excluded from the NHA data (Office of National Cost Estimates 1990; Haber and Newhouse 1991; Lazenby et al. 1992).

Hospital care and physicians' services are the two largest categories. Hospital expenditures cover all services provided by hospitals to patients (e.g., room and board charges, charges for services of residents, inpatient pharmacy charges). Expenditures generally are based on hospitals' total patient charges, less contractual adjustments, bad debts, and charity care. The American Hospital Association's (AHA) annual survey is the basic source used to prepare hospital estimates. One limitation of these data is that adjustments must be made by HCFA because every hospital's reporting period is not uniform (Lazenby et al. 1992).

There are limitations when it comes to disaggregating hospital expenditures. Because the data are collected from provider responses to the AHA survey, state expenditure levels are based on the location of the provider, not of the patient. Spending levels, therefore, cannot be interpreted as spending per resident of a state (Levit 1985). HCFA hopes, sometime in the future, to disaggregate expenditures based on patients' residence. Medicare claims data, which include information on the beneficiary's residence, could be used as a basis for estimating the linkage between place of residence and place of service.²

Until the late 1970s, physician expenditures were based primarily on Internal Revenue Service (IRS) data: total business receipts (excluding nonpractice income) for all sole proprietorships, partnerships, and incorporated practices. The gradual deterioration of the timeliness and statistical reliability of the IRS data prompted the federal government to start using other sources. Principal sources used today are the Bureau of the Census's Services Annual Survey (SAS), which provides estimates of annual changes in business receipts, and its five-year Census of Service Industries, which collects data on receipts from every establishment in the United States and provides a benchmark for the annual SAS. These census data are verified by Labor Department data on such items as hours worked by practitioners (Haber and Newhouse 1991; Lazenby et al. 1992).³

¹ The physician category, for example, includes the offices of doctors of medicine and osteopathy and independently billing medical laboratories.

² Since Medicare data apply only to its beneficiary population, adjustments would have to be made to allow for differences between that population and the general population.

³ Estimates of total physicians' services are adjusted to exclude the portion of independent laboratory services billed through the physician to avoid double-counting.

These data sources, however, impose significant limitations. Costs associated with salaried practitioners are reported with expenditures for the establishments that employ them. Professional fees paid by hospitals to physicians, for example, are counted with hospital care rather than with physicians' services. Adjustments are made, however, to add salaried physicians' services provided through staff-model health maintenance organizations (HMOs) (Lazenby et al. 1992). In addition, because the Census Bureau survey is updated only once every five years, state-level statistics on physician expenditures cannot be done annually. As with hospital data, these figures are based on the place of service rather than the patient's residence. States with major cities on their borders are particularly vulnerable to biased estimates, because patients are likely to cross state lines to receive services (Levit 1985).

The data problems are even greater for categories such as prescription drugs, since they can be purchased in community or HMO pharmacies, grocery stores, or mail-order establishments. HCFA uses reports of manufacturers' domestic drug sales and adjusts those figures by estimates of wholesale and retail markups and net inventory changes (Lazenby et al. 1992). Deriving estimates of prescription-drug spending by state is especially difficult given the increased use of mail-order pharmacies.

Federal Claims Data Systems

The federal government maintains claims systems for programs for which it has total or partial responsibility as a payer — Medicare, Medicaid, and the Federal Employees Health Benefits Program (FEHBP).⁴ The caliber of these systems varies from the elaborate, well-developed system maintained by Medicare to FEHBP's more limited system.

Medicare Claims Data. The federal government's role in Medicare is that of primary payer for services. As a result, HCFA needs an elaborate claims data system to verify that claims should be paid. These claims data can then be exploited for other analytical purposes, such as monitoring costs, quality, and access.

The Medicare claims system, particularly that for paying physicians, has evolved substantially over the years to the point where it may serve as a model for a national data system. Similar development has occurred in the claims system for hospital services.⁵ In other areas, such as prescription drugs or long-term care services, where Medicare is not a primary payer, the development of claims systems has lagged.

⁴ The federal government is also a payer for programs administered by the Departments of Defense and Veterans Affairs, each of which has limited data capabilities (AHCPR 1991).

⁵ See Prospective Payment Assessment Commission (1992) for a discussion of Medicare's system for claims and cost reporting for hospitals and its applicability to private payers.

Medicare contracts with 56 carriers for the processing of physicians' service claims.⁶ Originally, these carriers were given considerable latitude. Medicare set broad guidelines, but the carriers themselves decided many of the details of establishing fee screens, handling beneficiary inquiries, and processing and paying claims. In many instances, the carriers were Blue Shield or commercial insurers, and they adopted practices used in their non-Medicare business.

In the early 1980s, HCFA began to push for more uniformity of claims processing procedures. First, HCFA mandated that all carriers use Current Procedural Terminology (CPT) codes for claims processing. Second, HCFA began to require that carriers make an annual submission of claims data in a uniform format, known as Part B Medicare Annual Data (BMAD) files. These BMAD files consisted of a detailed summary of 100 percent of claims, plus a set of sample files showing line-item detail from individual claims.

To generate BMAD files, carriers often had to crosswalk the data from their own systems to the common definitions required by HCFA. For example, several carriers used their own specialty designations in developing fee screens. These carrier-specific specialties had to be translated to the list of HCFA-recognized specialties in order for the carrier to generate its annual BMAD files. Although the first several years of BMAD files often contained major inconsistencies across carriers, many were resolved and after 1986 they became the principal source of data for both HCFA's and the Commission's analysis of Part B services.

In 1989 HCFA began implementation of the National Claims History (NCH) system. This system was developed to consolidate all beneficiary information by linking hospital and physician payment records and to provide more information more quickly. Complete implementation of this system was accomplished in 1991. Under the NCH system, local carriers process claims through nine regional hubs using explicit coding standards. The hubs are responsible for validating claims for completeness and consistency; reviewing claims for payment characteristics (e.g., applicable deductibles, limitations, coinsurance); accumulating claims history; and authorizing claims payment. Claims that do not meet the standards are returned to the provider through the carrier; claims data are forwarded to HCFA through the hub once they are cleared.

The NCH system makes 100 percent claims-level data available to HCFA on a timely basis at the same time that it reduces local coding problems. HCFA now has substantially increased its ability to monitor access and quality of care through measurement of geographic variations and through beneficiary and provider profiling, as well as its ability to support research and demonstrations.

In conjunction with the NCH system, Medicare also developed a denominator file — based on Social Security data — that includes information on eligibility, residence, and some

⁶ For beneficiaries in HMOs with risk contracts, no claims data are collected for physicians' services.

sociodemographic characteristics of its beneficiaries. This file makes it possible to compare rates of utilization across different Medicare and non-Medicare populations. HCFA, in collaboration with the Agency for Health Care Policy and Research (AHCPR), plans to expand its data on beneficiary characteristics by linking survey data from the Medicare Beneficiary Health Status Registry with its administrative files.⁷ The registry will be a longitudinal database with information on Medicare beneficiaries from the time of enrollment until their death. Survey information will be obtained on 2 percent of elderly beneficiaries as they enter the Medicare program and at two-year to five-year intervals thereafter. Information collected will include sociodemographic variables, risk factors, functional status, medical history, and quality of life.

Even today, some carrier reporting within the NCH system is based on crosswalks from carrier-specific information to standardized formats required by HCFA. For example, carriers continue to use their own systems of physician billing numbers, and physicians continue to submit claims using these numbers.⁸ Medicare, however, requires that each claim have a unique provider identification number (UPIN), which carriers attach to the claim by crosswalking the physician name and billing number to the UPIN.

Although HCFA has made considerable progress in developing a standardized claims system that could be used as the basis of a national data system, some problems remain. It is sometimes difficult, for example, to distinguish individual physicians from single-specialty group practices. Certain elements (e.g., diagnosis codes) are not used uniformly across providers. Finally, the claim form itself is not an adequate basis for characterizing patients or assessing quality of care.

Medicaid Data Systems. Medicaid data are collected on a state-by-state basis, but provide little or no basis for national data analysis. In 1980, the Congress enacted a requirement that all states have a Medicaid Management Information System (MMIS). As of 1991, only one state remained exempt from this requirement. The MMIS includes basic systems for maintaining information on beneficiaries and providers and for processing claims (CRS 1993).

Despite the requirement that each state have an MMIS, system capabilities are limited. HCFA has not required standardized coding of data elements. States are required to provide aggregate summary information to the federal government on HCFA Form 2082, but these summaries are considered to have only limited value. There are three Medicaid claims-based data systems (Medicaid Statistical Files, Medicaid Statistical Information System, and Tape-to-Tape). These files all have serious liabilities and do not provide the capabilities of

⁷ Work on this project began in 1990; pilot testing should be completed this year.

⁸ Some carriers use billing numbers that are virtually unique physician identifiers, whereas others average more than three billing numbers per physician. The format of the identifiers varies from six digits to up to nine digits and letters, with no common elements across carriers.

monitoring access and quality of care or even tracking accurately costs and utilization. In Chapter 15 of this report, the Commission discusses the weaknesses of existing Medicaid claims data and presents recommendations for making improvements.

The Federal Employees Health Benefits Program. The federal government in its role as an employer operates the Federal Employees Health Benefits Program, which in 1992 covered 2.5 million employees, 1.6 million annuitants, and about 6 million dependents. The program contracted with 15 indemnity plans and offered about 300 managed-care options (OPM 1992).

FEHBP does not have data systems capable of collecting and retrieving the information needed for effective monitoring and management of the program. A 1989 Congressional Research Service (CRS) report indicated that information such as cost data exists within the FEHBP structure, but not in a form that facilitates access or analysis (CRS 1989). Data are independently gathered and analyzed by the plans with, at best, inadequate summary data forwarded to the Office of Personnel Management (OPM). In order for OPM to monitor and manage plans effectively, according to the CRS report, uniform data definitions and identifiers need to be used by the plans, with the data then forwarded to OPM in a common format. This would, however, impose significant additional costs and administrative burdens on participating plans.

More recently, OPM has attempted to improve its data collection capabilities and has assembled a file containing demographic information (age, sex, and employment status) on all employees. No such data — not even names — are available on dependents. OPM is currently assembling a database of summary utilization data for enrollees in several indemnity plans, covering about 75 percent of all enrollees. The challenge is getting the plans to submit the data in a usable form; at present, plans submit information on hard copies or, if on tape, in an unusable manner.

Other Federal Data Sources

The federal government's capabilities for tracking health care utilization and costs are not limited to the claims systems for its own programs. Other data sources include surveys administered by HCFA, AHCPR, and the National Center for Health Statistics (NCHS), and medical record abstracts incorporated in the Uniform Clinical Data Set (UCDS).⁹

Federal Surveys. In 1991, HCFA began administering the Current Beneficiary Survey (CBS) as a supplement to Medicare claims data. The CBS is a longitudinal survey of about 12,000 Medicare beneficiaries, who are interviewed three times a year. Topics on the survey include access to care, health and functional status, and utilization; these answers can be

⁹ Some of these surveys, including AHCPR's National Medical Expenditure Survey, are described more fully in Chapter 15.

linked to respondents' Medicare claims records (see Chapter 5 for the Commission's analysis of CBS access data).

The National Center for Health Statistics conducts a number of regular surveys that help to provide a base for monitoring health and service use. Survey data provide a critical supplement to claims data and allow analysts to move beyond some of the biases that are inherent to claims data. In particular, both the National Health Interview Survey (NHIS) and the National Health Care Survey (NHCS) annually obtain data on health care utilization.

The NHIS is an annual interview survey of 50,000 households. Data are collected on health status and disability, utilization of health care services, family resources (including information on health insurance), and attitudinal information on topics such as AIDS. Supplements are added from time to time to collect data on such topics as use of rehabilitative services, mental health services, or clinical prevention services. NHIS data may prove valuable in identifying shifts of care to different sites, barriers to access, and changes in utilization of services.¹⁰

The National Health Care Survey is a new project of NCHS that would build on existing provider surveys, merging and expanding them and linking them with the NHIS. In particular, it would incorporate the National Hospital Discharge Survey, the National Ambulatory Medical Care Survey, the National Nursing Home Survey, the National Health Provider Inventory, the National Hospital Ambulatory Care Survey, and the National Home and Hospice Care Survey.¹¹ All of these surveys collect data from practitioners on the care they provide. Plans also call for developing a capability to conduct follow-up studies to examine subsequent medical care and the outcomes of care. The NHCS has the potential to assist the government in tracking utilization of health services, in analyzing changes in delivery across categories of services, and in evaluating quality.

The National Center for Health Statistics commissioned the Institute of Medicine (IOM) to evaluate its plans for the National Health Care Survey, a review that was completed last year (IOM 1992). The IOM commended the agency's plans but called for a broader long-term data strategy. It made a series of specific recommendations to broaden the scope of data collection in the following ways:

- expansion of the range of providers covered in current health care surveys;
- linkage of persons surveyed in household settings with records available from health care providers;

¹⁰ The potential of the NHIS and several other surveys for monitoring access to care under the Medicaid program is explored in Chapter 15.

¹¹ The latter two surveys began in 1991 and 1992 as part of the National Health Care Survey.

- annual collection of data on health care utilization and expenditures from a sample of households;
- a series of longitudinal studies to track individuals through the health system, with an emphasis on episodes of illness that lead to use of the system; and
- an increased focus on health outcomes.

An illustration of the limitations and potential of surveys for estimating utilization and expenditures comes from the politically charged debate over the Medicare Catastrophic Coverage Act. Estimates of the cost of the drug benefit included in that law were as low as \$2.0 billion and as high as \$6.8 billion; estimates were derived primarily from various surveys administered between 1967 and 1984. After the law was repealed, considerable discussion ensued over the reasons for the disparate estimates. Some contended that there was considerable misreporting of prescription drug expenditures in household surveys. A new survey, the Prescription Drug Expenditure Verification Survey (PDEVS), was undertaken to assess the accuracy of earlier estimates. Survey data were supplemented with expenditure information from households and their pharmacies. The PDEVS found more than 24 percent of households failing to report any prescription drug expenditures had indeed purchased drugs. Using revised estimates based on the PDEVS findings, estimates of expenditures for prescription medicines by elderly Medicare beneficiaries were increased by 34 percent (Berk et al. 1990).

Uniform Clinical Data Set. Another federal data initiative that goes beyond claims data is the development of the Uniform Clinical Data Set by HCFA. Under the UCDS, information on Medicare beneficiaries' hospitalizations is abstracted from medical records and coded to a uniform format. This information includes various clinical indicators of the condition and progress of the patient. Incidents that may reflect problems in the quality of care are then flagged for further review by physicians.

The UCDS is being pilot tested by six peer review organizations (PROs) as a means to screen for quality of care problems. In this project, HCFA staff estimate that abstraction and screening cost roughly \$100 per case. Outcomes from the pilot are mixed, and HCFA is moving cautiously toward its original goal of applying the UCDS nationwide. HCFA is beginning UCDS data collection this year for the Cooperative Cardiovascular Project, a joint effort with medical and surgical groups, including the American College of Cardiology. In this project, UCDS data will be collected for a large sample of hospital discharges related to cardiovascular conditions such as myocardial infarctions or coronary artery bypass grafts. The UCDS data will be used to improve the process and outcomes of cardiovascular care in the elderly.

HCFA has made a modest attempt to abstract medical record data in noninstitutional settings such as physicians' offices. This effort is still in the planning stages, however, and there are

no current plans to expand it to a nationwide system. Finally, HCFA is researching the use of UCDS data for examining condition-specific indicators of quality and outcomes of care. For example, UCDS data might be used to identify postsurgical morbidity and mortality that was not anticipated based on presurgical clinical findings. This task, however, is extremely difficult and will not be completed in the near future.

HCFA's experience with the UCDS may provide lessons for the use of medical record abstraction in a national data system. First, it is clearly feasible to extract a significant number of data elements from medical records in inpatient settings, although not in outpatient settings. Second, as HCFA refines the UCDS and as researchers use the data and identify those elements most critical for monitoring quality, both the breadth and costs of the abstraction process are likely to fall.

On the other hand, it will probably prove more difficult to analyze the UCDS data than to collect them. HCFA's research efforts are only now getting under way, and as yet there are no well-established models for use of UCDS-type data for monitoring processes and outcomes of care. Finally, concerns have been raised that the UCDS is an extremely large and potentially cumbersome data structure that does not focus on assessment of any particular clinical issue. Because the record structure is so large, only a sample of medical records can be abstracted. This limitation — along with the high cost of record abstraction — may restrict the value of UCDS data outside of peer review activities.

Computer-Based Patient Records. The potential for abstraction of medical records could grow considerably with further development of the computer-based patient record, which could offer researchers relatively accessible and affordable information. The Institute of Medicine, in a recent study, claimed that automated records could support patient care and improve its quality, reduce administrative costs, and support clinical and health services research. In its blueprint for developing the computer-based patient record, the IOM called for creation of a Computer-Based Patient Record Institute (IOM 1991). The institute, a public-private partnership of providers, business, purchasers, technical experts and others, was created in 1992 and has begun to develop a work plan.

State Data Systems

Important developments in data systems have taken place at the state level in recent years. Some states have data commissions that collect aggregate data, such as utilization and mortality rates by hospital for certain surgical procedures. These data are primarily used for payers that wish to compare providers or for cost-quality management, but they also allow monitoring.¹² Most states focus exclusively on hospital utilization data, although a few also collect data from ambulatory settings. According to a 1989 survey by the National

¹² The Pennsylvania Health Care Cost Containment Council in 1992 released physician-specific mortality rates for coronary artery bypass graft surgery. New York had earlier released similar data in response to a court order.

Association of Health Data Organizations (NAHDO), organizations in 17 states routinely collected data from ambulatory settings; in only three states, however, were data collected in office settings (NAHDO 1989). More recent NAHDO information shows that six states collect some data for office-based physicians, but several limit themselves to selected ambulatory surgical procedures. Other states have expressed interest in expanding their data activities but are impeded from doing so by limited resources.

A few states are making substantial progress in standardizing and collecting health care utilization data.¹³ Minnesota, as a result of passing the Minnesota HealthRight Act in April 1992, has begun a sophisticated data collection program. Prior to that law's passage, the Minnesota Utilization Data Definitions Committee (UDDC) was formed in 1989 out of a concern that current methods used by managed-care organizations to report utilization data were inadequate. Its charge was to develop data reporting definitions that were built on existing state and national standards, were acceptable to data submitters and external agencies, and could be changed as the health care industry changed. Concluding that existing reporting systems were not comparable or meaningful, the Minnesota UDDC developed specific reporting principles for both inpatient and ambulatory settings (Minnesota UDDC 1992).

The new Minnesota law will move state activities far beyond the work of the UDDC. At present, the Minnesota Department of Health is collecting aggregate cost and utilization data from hospitals, ambulatory surgical centers, and HMOs. These data will be used as benchmarks to measure the success of the reforms. Additional data initiatives, now in the early planning stages, include collecting data from sources such as claims, plan reports, medical records, patient interviews, and provider reports. The health department will merge encounter data with aggregate data from plans and providers.

The Vermont Health Care Authority (VHCA), created by the state's 1992 health reform legislation, has begun implementation of the first phase of a three-phase data collection project. In this phase payers will report data on aggregate payments by age group, geographic region, and other groupings. Providers will report aggregate data on their financial revenues, by source.¹⁴ The second phase will build a statewide claim system generally modeled after the Community Health Management Information System (CHMIS), a prototype developed by the John A. Hartford Foundation (1992).¹⁵ Payers would maintain their own data systems, but VHCA would have access to a wide range of data, including information on diagnosis, procedures performed,

¹³ Other states are considering ambitious data collection projects. Ohio, for example, passed a law this year to move toward electronic data interchange, standard claim forms, and statewide data collection. The Washington State legislature is considering legislation that would require providers to report data relating to health care costs, quality, and outcomes.

¹⁴ This requirement is made easier to implement by the fact that 40 percent of all Vermont physicians belong to one group practice.

¹⁵ The Vermont Health Information Consortium (a private-public consortium) has received a grant from the John A. Hartford Foundation to implement a CHMIS in Vermont. It is at present working independently from the VHCA.

provider identification, and charges associated with each patient. The third phase of the Vermont project is a long-term goal of creating a population-based system controlled by VHCA.

State Employee Plans. Most states maintain some form of database for the utilization of services by their state employees, although it is unlikely that many exceed the limited capabilities of the FEHBP. The California Public Employees' Retirement System (CalPERS), which covered 874,000 lives in 1992, is one exception. It is currently in its second year of collecting large amounts of diverse data. As part of its rate renewal process each year, CalPERS requires each participating health plan to return a comprehensive questionnaire. The questionnaire contains hundreds of questions on (1) the plan itself (e.g., access to care, case-management capabilities); (2) proposed modifications to the benefits package; (3) the largest cost categories that contribute to the total premium; (4) utilization; and (5) Medicare program supplements offered by the plan. The CalPERS questionnaire allows administrators to determine whether premiums are in line with costs, to evaluate and compare the quality of care each plan provides, and to assess the impact of potential benefit changes on overall utilization. The information is now used primarily as a tool in the premium negotiation process. CalPERS sees future uses of the data, for example, in assembling plan comparison guides for enrollees.

State Hospital Discharge Abstract Data Sets. In recent years, many states have implemented collection of hospital discharge abstracts.¹⁶ Overall, these state discharge abstract data sets now cover more than 55 percent of U.S. hospital discharges (Dodds 1993). Supplementing these data with Medicare records, available sources would cover about two-thirds of all hospital discharges, thus providing a substantial start toward a nationwide information system for inpatient stays.

Although data formats vary somewhat across these state systems, much of the information is already standardized reflecting the federal government's Uniform Hospital Discharge Data Set standards. Diagnosis information is coded using International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) codes, although the number of procedures and diagnoses recorded on the abstract varies across systems. Most systems collect patient characteristics such as age, race, and sex; many record the patient's ZIP code of residence. Nearly all systems record dates of admission and discharge and length of stay, whereas some record financial information such as total charges. In terms of identification, most systems record but do not release patient identifiers, typically Social Security numbers, although two states release a scrambled Social Security number. Almost all record a unique

¹⁶ Complete discharge abstract data sets are routinely available currently from 16 states (AZ, CA, CO, FL, IL, ME, MD, MA, NV, NJ, NY, OR, PA, VT, WA, WI). A further eight states (CT, GA, MI, NH, NM, RI, WV, WY) collect but do not routinely release their discharge abstract data sets. Five states (IN, IA, NC, ND, SC) collect or release only limited data. Three other states (OH, TN, UT) plan to begin production of discharge abstract data sets in 1993 (Dodds 1993).

hospital identifier. Relatively few systems, however, record a physician identifier, and the quality of that physician identifier data is suspect.¹⁷

Standardization of this information could readily lead to a national database. At least two commercial companies already produce an integrated national discharge abstract database by combining state and Medicare data. Currently, AHCPR is attempting to produce such a national database. These state discharge abstract systems provide a very detailed and nearly uniform set of records for inpatient hospital care. They could be used to track admissions for specific diagnoses and procedures or for specific sociodemographic classes. In many cases, records for specific individuals could be identified. It is unlikely, however, that these data alone would be useful in profiling individual physicians due to the poor quality of physician identification data on discharge abstracts.

Private-Sector Data Systems

Private-sector payers in theory have many of the same needs for tracking costs and utilization as public-sector payers. In practice, however, many payers have not developed sophisticated data systems, because they have not been pressured to control costs to the degree that has occurred in public programs in recent years. This situation is changing as more companies have turned to their insurers for ways to cut costs.

Private-Plan Administrative Data Systems. Most insurers and health plans have administrative data systems that allow them to track total utilization and spending.¹⁸ The breadth of these systems vary: they may include enrollment files, including patient identification, demographic, and insurance data; hospital episodes, with some or all of the billing data on the UB-82 form; encounter data, including some or all of the information on the HCFA-1500 form; and ancillary services and pharmacy data. Health plans that pay individual and institutional providers on a fee-for-service basis generally have more extensive administrative data sets, because claims are used to obtain payment. Many group-model and staff-model HMOs and those independent practice associations that capitate their providers have more limited administrative data sets.

Although there has been no recent systematic evaluation of the extensiveness of administrative data sets for different types of health plans, there is much variation across health plans in the availability, content, accuracy, and completeness of these data sets. The vast majority of health plans apparently have data approximating that collected on the UB-82,

¹⁷ These physician identifiers suffer from the same problems as the Medicare physician billing numbers: several physicians may share a common number, while one physician may be identified under several different numbers.

¹⁸ Similarly, individual group purchasers may track their total spending on health care as part of their overall accounting process. For many this accounting may be nothing more than total premiums or total outlays for health services; however, some companies (or increasingly, purchaser coalitions) have begun to move beyond this level.

but fewer than half collect encounter data systematically. The proportion of plans using the HCFA-1500 form for ambulatory data is probably small.

Better information on the current state of health plans' administrative data sets is needed to ensure that expectations regarding reporting abilities are realistic and to identify actions that would assist plans in developing the necessary information systems. The lack of standardization also makes it difficult to aggregate private data to state or national levels.

The Workgroup on Electronic Data Interchange (WEDI), representing insurers, HMOs, and providers, has published a preliminary blueprint for establishing a standardized electronic data interchange over the next five years. The WEDI report contains recommendations in such areas as standardization of formats, uniformity of data content, confidentiality, and coordination of benefits. One long-term goal of WEDI is to develop overall designs, broad implementation guidelines, and a work plan for meeting these recommendations. WEDI envisions a health care industry connected by an integrated system of electronic communication networks. These networks would allow entities such as hospitals, pharmacies, government, and third-party payers, to exchange information and process transactions electronically.¹⁹ An important ingredient would be safeguards to ensure protection of privacy and security interests (WEDI 1992).

The WEDI report emphasizes the necessity of devising a system that would allow all participants to communicate with each other. Although hardware and software might vary, all participants should use the same format and data elements. WEDI anticipates, therefore, that communication networks would evolve through interconnections among various existing and newly created networks rather than through the creation of a single national data system. Core functions of the networks (enrollment, eligibility, claims submission, and payment and remittance advice) would most likely be transacted through a clearinghouse. There are at least two benefits from WEDI's approach. The burden associated with fulfilling diverse data requirements from many payers would be alleviated for providers, and the quality of information collected would be improved.

Data Systems in Managed-Care Organizations. Managed-care organizations, especially group-model and staff-model HMOs, will require special consideration because they have not historically maintained the type of claims-based administrative data systems that fee-for-service plans establish. The work of the Minnesota UDDC represents one effort to move forward in this direction.

Efforts in the managed-care industry are also addressing these issues. The American Managed Care and Review Association (AMCRA) has begun a project, known as the AMCRA Healthcare Database, to import raw data from participating plans into a generic

¹⁹ Currently, only 15 percent of claims submitted by providers to insurers are processed electronically — 70 percent for hospitals, 60 percent for pharmacies, but only 12 percent for physicians (Brohan 1992).

national database. The technical requirements of this project have proved to be substantial and costly, but a pilot phase is under way with data from six plans. The goal is to have a working system in place by 1996.

Another project was initiated by a consortium of group-model and staff-model HMOs and several large employers (the HMO Group, Kaiser Permanente, four major employers, and Towers Perrin). The result was development of the HMO Employer Data and Information Set (HEDIS), which included standard reporting forms for enrollment, utilization, and finances, together with detailed instructions for constructing appropriate measures of performance in each of these areas based on specifically defined data. The National Committee for Quality Assurance (NCQA) is currently involved in a process to enhance the HEDIS document (e.g., with a new set of quality measures). A revised version of HEDIS will be available in April 1993. Several employers have already committed to using HEDIS for collecting data from plans; more employers are expected to adopt it after further testing.

In January 1993, 30 managed-care plans and several large businesses committed themselves in a letter to President Clinton to support creation of a national data-collection system. Whereas their main goal is a system of comparable quality information, it requires the development by NCQA of specifications for data collection, auditing, and reporting formats. The HEDIS data set should provide a foundation for this effort. The group indicated that its first report card of comparable quality data would be available by 1994.

ASSESSING QUALITY OF CARE

An important component under any approach to health system reform is the government's role in monitoring and assessing the costs and quality of health care. Currently, the ability to assess quality is limited. In the Medicare system, both HCFA and the Commission have gained valuable experience in using claims data to monitor the impact of changes under the Medicare Fee Schedule (PPRC 1992). Yet the use of claims data to measure quality has significant limitations, and it will be important to collect other types of data for these purposes. Although headway is being made in developing instruments to measure the costs, process, and outcomes of care (including functional status and patient satisfaction), substantial problems need to be overcome before quality can be compared across plans.

Employers and Indemnity Plans

For the most part, neither employers nor indemnity insurers have made significant strides in measuring quality. Many employers have used only rudimentary indicators to make decisions on which plans to approve for their employees or have compared providers on the basis of little more than reputation or willingness to offer discounts.

A number of firms in recent years, however, have moved well ahead of their competitors. Companies such as General Electric, Honeywell, Navistar, and Xerox have developed specific criteria for choosing plans or providers. Navistar, for example, plans to select cardiac centers of excellence based on effectiveness data. Xerox has developed an elaborate system, including requiring all plans to make available a minimum data set that measures variables ranging from overall utilization (e.g., inpatient days per 1,000) to access (e.g., number of physicians accepting new members) to quality (e.g., immunization or mammography rates). Xerox has also worked with the HEDIS task force to strengthen that data set for monitoring HMO utilization and quality.

A number of purchaser consortia have projects to enhance their ability to monitor costs, service use, and outcomes in order to select plans and monitor the quality of care received by employees. For example, MEDALCO, a project directed by a coalition of Maryland businesses and labor groups, is building a database from claims and enrollment records of participating companies. Companies receive analyses of service use compared to those for other companies' employees (Cronin 1992).

Traditionally, indemnity insurers have paid bills from any providers. This absence of close relationships with providers has meant that insurers rarely used quality indicators except to identify outliers, that is, providers whose practice patterns deviate far from the norm. Indemnity plans, however, have changed rapidly in recent years, as they select providers more carefully and look systematically at the quality of care delivered.

Although plans' selection of providers has not always been heavily data driven, insurers are increasingly basing their selection of providers on utilization or quality data. For example, Blue Cross Blue Shield of the National Capital Area recently introduced a profiling system to select physicians for its preferred-provider option. Critics suggest, however, that these plans still base such decisions more on cost than on quality.

As indemnity plans establish closer affiliations with providers, quality measures may become more useful in those settings as well. Travelers, for example, has initiated a pilot project in northern California using data from UB-82 forms to compare the performance of hospitals (Darby 1992a). Similarly, Blue Cross and Blue Shield of Michigan has developed a program to disseminate risk-adjusted claims data to participating hospitals (Darby 1992b).

Assessing Quality in Health Plans

Current accreditation systems used for managed-care plans can play a role in providing safeguards for quality. But such programs rely primarily on whether a plan has the necessary management structures and processes to improve patient care. These systems thus afford only

limited ability to make comparisons among health plans. As a result, accreditation should be accompanied by a system to measure how plans actually perform.²⁰

Comparable Quality Information System. A quality information system entails establishing a common set of performance measures (e.g., percentage of pregnant women beginning care in the first trimester, percentage of diabetics receiving annual referrals for eye care), a comparative database, and a general reporting mechanism. Such a system would serve several objectives. Health plans would have access to benchmarking information to identify areas for improvement. The availability of information on plan performance across a diverse set of performance measures would also provide consumers, purchasers, regulators, and others with the tools to compare performance and choose those plans that best meet their needs. It would also give health plans an incentive to improve performance and value.²¹

One important difference between assessment of managed health plan performance and assessment of individual physicians is that the unit of analysis for plan performance is the plan's membership, not individual patients or physicians. Population-based measures have several advantages. First, they allow evaluation of care provided to an enrolled population. Second, at the plan level there are generally adequate numbers of specific clinical events to allow assessment of many clinical issues. Finally, population measures assess plan processes that are not individual provider-based, recognizing that health plans are more than linked networks of individual physicians.

One can derive population-based measures for geographic areas, and these have been valuable in studying variations in practice patterns (Wennberg et al. 1980; Wennberg and Gittelsohn 1975). But geographically defined population-based measures are of limited use for ongoing quality monitoring or for purchaser decisionmaking, because there is generally no provider entity responsible for serving the population and that can be held accountable for taking action to improve performance.

Some have argued that population-based measures of performance are less useful for indemnity plans than for managed-care plans, because many indemnity plans do not require that their enrollees receive services through a defined network of providers who agree to participate in quality improvement activities. As such, the plans have only limited mechanisms for improving the quality of care. For example, if low mammography rates are identified as an area for improvement, an indemnity plan may be able to educate its enrollees or its primary care practitioners on the importance of mammography. But it may not be able to require that physicians follow the guidelines.

²⁰ Much of the discussion of measuring quality in health plans is based on a paper prepared for the Commission by Corrigan and O'Kane (1993).

²¹ The concept of performance measurement is gaining popularity. In March 1993, the Center for Health Care Policy and Evaluation, a research arm of United HealthCare, released its health care report card, showing the performance of United HealthCare's 20 managed-care plans.

The sections that follow discuss the criteria for selecting measures for a comparable performance measurement system and identify specific measures and relevant data sources. They also assess the ability of plans to provide the necessary data.

Criteria for Identifying Performance Measures. To describe health plan performance and to meet the needs of multiple users, a performance assessment system should satisfy several criteria. First, such a system should include a well-balanced set of measures that reflect important aspects of patient care, including (1) accessibility of care; (2) various types of services, including prevention, critical care, acute care, and chronic care; (3) major clinical areas; and (4) major cross-clinical issues, such as management of clinical conditions requiring cross-disciplinary management. A variety of measures is critical since acceptable performance in one area (e.g., delivery of preventive services) does not necessarily correlate with acceptable performance in another (e.g., use of diagnostic procedures or management of chronic diseases).

Second, a set of performance measures should include both medical care process and outcome measures. Although some consider process and outcomes to be different schools of thought, they can be viewed as complementary approaches. There are certain advantages associated with process measures. They are frequently easier and less expensive to measure than outcomes. They are also for the most part directly attributable to the actions of a plan and its providers. In addition, they can be evaluated immediately after care is provided. Finally, process measures are less likely to vary depending on a health plan's case mix (e.g., all pregnant women should receive a visit and certain routine screening tests in the first trimester regardless of risk status) than are outcome measures (e.g., incidence of low-birthweight babies). Outcomes, on the other hand, are more relevant to the concerns of consumers and purchasers and, when accompanied by process measures, have the potential to contribute to the knowledge base on medical-care effectiveness (Wennberg et al. 1980). Both approaches have merit, and there is the potential for synergy from combining them.

Third, to satisfy the first two criteria, a performance measurement system should rely on multiple data sources. The three most common sources of data are administrative data sets, medical records, and enrollee surveys. Administrative data sets contain only limited information and are not uniformly available across the managed-care industry. But the cost of retrieval is less than for medical records. Medical records contain far more detailed information, but the accuracy, completeness, and organization of this information are variable. Enrollee surveys provide information not contained elsewhere, such as information on expectations, satisfaction, and health outcomes.

Fourth, there should be mechanisms to ensure ongoing refinement and adaptation of a performance measurement system over time. During the early years, the indicators included will likely be those that are relatively easy to specify and measure. Consequently, new measures offering the greatest potential to increase value should be incorporated on an ongoing basis.

Performance Measures That Address Specific Clinical Issues. Considerable progress has been made in recent years toward the development of a framework to guide the selection of condition-specific performance measures and the specification of valid and reliable measures. On the basis of estimates of the prevalence and health impact of various conditions and the efficacy of available treatments, the RAND HMO Consortium has identified conditions where improved quality can be expected to have the greatest impact on health (Siu et al. 1992).²² In identifying these conditions, consideration was also given to (1) the availability and feasibility of collecting the necessary information, (2) the cost effectiveness of relevant improvements in care, and (3) the ability of health plans to influence relevant improvements. The consortium's 13 high-priority target issues for evaluating the quality of care in health plans are shown in Table A-1.

For most of the targeted problems listed in Table A-1, there are numerous process and outcome measures that might be used to assess performance. Some areas (e.g., treatment of myocardial infarction) require more complex assessment tools that rely on medical record audits or special data collection efforts, while others (e.g., mammography rates) can be measured using administrative data sets. Performance measures already exist for many of the target areas identified by the RAND HMO Consortium. The consortium has developed comprehensive and sophisticated instruments for assessment of prenatal care and the appropriateness of hysterectomies, and these tools have been subject to validity and reliability testing (Bernstein et al. 1991; Murata et al. 1992; Sherwood et al. 1992).

Significant developmental work has also been conducted within certain managed-care organizations. Table A-2 presents a listing of various performance measures that have been developed by several health plans (Harvard Community Health Plan, United HealthCare, U.S. Healthcare, Group Health Cooperative of Puget Sound, and Intermountain Health Care) that have invested considerable resources in the specification of performance measures and the development of software, abstraction instruments, and other tools (Heinen et al. 1992; Heinen and Leatherman 1992; U.S. Quality Algorithms 1993). It is important to recognize that much of this developmental work is conducted by health plans and is often considered proprietary. An important challenge for the government is how to balance the need to encourage continued investment by health plans in the development of a quality measurement infrastructure with the need to identify ways to place in the public domain those measures and instruments most useful for public reporting and oversight purposes.

Most health plans can probably derive some of the measures in Table A-2 from administrative data sets but would need to rely on focused audits or special data collection instruments to estimate performance in other areas. Although health plans vary in terms of their data capabilities and thus their ability to assess performance, nearly all plans have

²² The RAND HMO Consortium, consisting of 12 health plans in collaboration with RAND, was formed to test the reliability and validity of quality-of-care measures that could be publicly released to compare health plans (Siu et al. 1991; Siu et al. 1992).

Table A-1. RAND HMO Consortium target areas and measures for evaluating quality of care

Target issue	General content of the quality of care measures
Prevention of low birth weight	Process measures to focus on the timeliness, frequency, and content of prenatal care
Childhood infectious disease	Immunization rates (by age of 2) for measles, mumps, rubella, diphtheria, pertussis, tetanus, <i>Haemophilus influenzae b</i>
Treatment of otitis media	Process measures to focus on the use of antibiotics for primary treatment and prophylaxis, use of ancillary diagnostic tests, and surgery
Treatment of childhood asthma	Process measures to focus on timeliness and thoroughness of treatment of asthma with special attention to counseling and self-care behaviors; functional outcomes (e.g., lost school days) adjusted for disease duration, age, and race
Breast cancer early detection	Mammography rates among women over 50 stratified by age
Prevention of coronary artery disease	Rates of cholesterol screening by age and sex; adequacy of follow-up received for elevated cholesterol
Treatment of myocardial infarction	Process measures to focus on timeliness of treatment, attention to recurrent angina, and appropriateness of medications
Treatment of diabetes mellitus	Process and intermediate outcome measures to focus on access, glucose monitoring, patient education, eye screening, and cardiovascular risk factor modification
Prevention of strokes	Process measures to focus on hypertension screening, appropriateness of treatment, and blood pressure monitoring; blood pressure results adjusted for age, sex, initial blood pressure, comorbidity, and treatment duration
Treatment of hip fractures	Process measures to focus on preoperative evaluation, prevention of complications, and postoperative care; outcomes adjusted for age, race, sex, fracture type, and comorbidity
Prevention of influenza	Immunization rates among those over 65, stratified by age and residence
Attention to the medical problems of the frail elderly	Process measures to focus on appropriateness of medication regimens and attention to common geriatric problems (e.g., incontinence, confusion)
Overuse of surgical procedures and prevention of complications	Proportion of cardiac catheterizations, cholecystectomies and hysterectomies performed for indications rated appropriate; complication rates adjusted for age, sex and comorbidity

Source. Siu et al. 1992.

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hospital claims data that can be used for measures involving a hospital episode (e.g., cesarean section rate, pediatric asthma admission rate). For those that have ambulatory encounter data, many of the remaining measures can be derived from these data. A few of the performance measures listed can also be derived from administrative data if the plan has access to the results of laboratory or other ancillary services (e.g., follow-up of abnormal Pap smear).

InterStudy and the Managed Health Care Association have also done pioneering work in developing and testing the Outcomes Management System (Kraus 1992). Special patient and provider questionnaires have either been developed or are in progress for 28 conditions, including asthma, hypertension, hip fracture, angina, low back pain, stroke, prostatism, and rheumatoid arthritis. Some of these measures have been subject to feasibility testing and found to be reasonably reliable and valid (Steinwachs et al. 1992).

Lastly, some of the projects funded by AHCPR to translate practice guidelines into review criteria may yield useful information for the derivation of population-based performance measures. For example, the American Medical Review and Research Center is developing guideline-based review criteria for acute postoperative pain, urinary incontinence, and benign prostatic hyperplasia.

The list of available performance measures specific to particular conditions is quite substantial, and there are some promising developmental projects under way. Because available measures are skewed toward preventive, maternal, and child care services, there is a particular need to focus work on chronic conditions. There is also a need for more practical performance measures and instruments. Some currently available measures resemble research tools and would be too costly for ongoing monitoring and reporting purposes. For example, the RAND prenatal evaluation tool is very lengthy, requiring an hour or more to abstract a typical medical record. More work will be required to convert research tools to general monitoring tools.

Measures of Satisfaction. Measures of enrollee satisfaction can play a key role in a performance measurement system. A majority of health plans conduct member satisfaction surveys, and several well-developed survey instruments are currently in use. There have been efforts within the managed-care industry to promote use of a standard member satisfaction survey. The Group Health Association of America, in concert with Allyson Ross Davies and John Ware of the New England Medical Center, developed a survey instrument that has gained considerable acceptance within the HMO industry (Davies and Ware 1991; NCQA and McGee 1992). Other instruments have gained acceptance in certain geographic areas (Bay Area Business Group on Health 1992).

For purposes of public reporting and monitoring, one approach is to select a limited number of measures that cover various aspects of performance, such as enrollees' ability to access the health plan or their satisfaction with the care provided and its outcomes. Consideration might also be given to obtaining information on aspects of performance that might serve as early

warning signs of managerial or financial difficulties. For example, enrollees' use of out-of-plan providers for nonemergency care could be an indirect measure of access to or satisfaction with plan services.

General Health Status Measures. The field of health status measurement has undergone rapid development in recent years, and some measures may be useful for ongoing reporting and assessment. In addition to the condition-specific measures discussed above, a general health status measure (the SF-36) is being widely used (Ware and Sherbourne 1992). The SF-36, a short-form survey constructed to determine health status in the Medical Outcomes Study (MOS), assesses eight health concepts:

- limitations in physical activities because of health problems,
- limitations in social activities because of physical or emotional problems,
- limitations in usual role activities because of physical health problems,
- bodily pain,
- general mental health,
- limitations in usual role activities because of emotional problems,
- vitality, and
- general health perceptions.

The SF-36 and related MOS instruments have been used extensively, and there is considerable evidence of their validity (Stewart and Ware 1992). Other general health status measures have been used to evaluate the effectiveness of alternative settings for care (e.g., special geriatric evaluation units) (Epstein et al. 1990). Such measures have not, however, generally been used for ongoing quality monitoring of health plans (Greenfield and Nelson 1992). Although the SF-36 is an effective instrument for assessing the health status of populations or groups, additional work is needed to establish linkages between overall health status changes in a population and a health plan's systems and processes for delivering care.

System Measures of Access and Service. Various system measures might be useful in assessing certain aspects of health plan performance (Table A-2). Voluntary disenrollment rates (i.e., those not necessitated by factors such as change of employment or location) have long been used as a possible indicator of enrollee dissatisfaction. Out-of-plan service use, as noted earlier, may also be an indicator of how well the plans' providers are meeting enrollees' needs. Although only some plans collect information on out-of-plan use (e.g., plans with point-of-service options), surveys could be used to obtain this information.

Another approach to assessing access, which has been used by various plans and employers, is to employ surrogate patients to attempt to obtain services. One company, for example, conducted a study where individuals posing as health plan enrollees attempted to schedule appointments for clinical problems of varying levels of urgency.

Table A-2. Comparable performance measures

Mental health and substance abuse Chemical dependency recidivism rate Mental health readmission and utilization Suicide rates	Preventive care Cholesterol screening in adults Diabetic care Office visits Glucose screening rate Ophthalmologic examinations Hypertension Blood pressure screening rate Follow-up of patients with elevated blood pressure Influenza and pneumococcal immunization rates for the elderly Pediatric immunization rate Smoking cessation counseling
Obstetric and prenatal care Cesarean section rate Newborn birthweight distribution Premature delivery rate Prenatal care visit rate	Rates for selected conditions Anticoagulation for atrial fibrillators Diabetic ketoacidosis or coma Digitalis toxicity Drug toxicity/allergy admission Pediatric asthma admission Perforated or hemorrhaging peptic ulcer Perforated appendix Sepsis Transient ischemic attack or stroke under age 65
Oncological screening and followup Breast Cancer Mammography rate Percentage of mammographies followed by breast biopsy Interval from mammogram to follow-up assessment Reoperation rate for incomplete excision of breast cancer Cervical cancer Pap smear rate Pap smear follow-up rate Colorectal cancer Screening sigmoidoscopy rate Positive screening follow-up rate	

Source. Corrigan and O'Kane 1993.

Utilization measures can also provide an effective mechanism for identifying possible barriers to access. These could include:

- high rates of emergency room use as an indicator of difficulties in obtaining access to primary care providers,
- very low referral rates to specialists as an indicator of excessive financial incentives to primary care providers to minimize referrals or a lack of qualified specialists within the network,
- low use of mental health providers and programs as an indicator of failure to diagnose and treat mental health problems, and
- a high proportion of enrollees having no contact with a health plan in a given year as an indicator of general access problems.

Such utilization measures must be interpreted very carefully, and caution must be taken to adjust for differences in case mix and other factors when making comparisons across plans.

But a composite of utilization measures can provide early warning signs that certain health plans are experiencing difficulties, and year-to-year trend data for individual plans may help identify plans with deteriorating performance.

Sources of Data for Performance Measures. Some promising projects are under way to build systems that automate and link information on various transactions (e.g., encounters, medication orders, referrals, laboratory tests and results). These efforts should be useful for many applications, including performance assessment (John A. Hartford Foundation 1992). Only a few health plans, however, are now involved in these projects.

At present, there are four major options for deriving information on health plan performance: administrative data sets, medical record audits, enrollee or provider surveys, and special data collection efforts. The advantages and disadvantages of these various data sources have been discussed elsewhere (Brand et al. 1991). This section briefly discusses each of these data sources, making specific suggestions for improvement.

Administrative Data Sets. Administrative data sets are useful both for estimating certain performance measures and for drawing samples of cases for focused medical record audits. When hospital episode and encounter data are available, many condition-specific measures can be derived from these data sets, thus minimizing medical record abstraction. Weiner and his colleagues (1990) have also reviewed the literature to compile a list of quality indicators that can be derived from claims data.

For more complex performance measures that rely on detailed information contained in the medical record, administrative data sets are needed to identify appropriate study samples. For health plans not collecting ambulatory encounter data, diagnostic and procedural data are available only for enrollees who have been hospitalized. This imposes serious constraints on the design of focused audits. Efforts should be made to encourage the collection of a minimum, uniform ambulatory encounter data set.

Medical Record Audits. Efforts currently under way to automate the medical record would greatly facilitate the retrieval of detailed information regarding the medical care process and, to some extent, patient outcomes (IOM 1991). Over the next few years, however, it may be necessary to rely on medical record audits to assess performance in many areas. Most health plans currently invest significant resources on focused medical record audits. Plans, however, would benefit greatly from improvements in the design of these focused audits (e.g., selection of appropriate sample sizes, use of appropriate statistical analysis techniques). The development of public domain study designs and instruments could help in this regard.

Patient Surveys. As described earlier, substantial efforts have gone into development of a common survey instrument. To obtain comparable data for public reporting and monitoring, two alternative approaches might be pursued: (1) common use of a limited number of survey questions, or (2) common use of a comprehensive survey instrument. Adoption of a common

survey instrument could make available both to consumers and regulators detailed comparative information from patients regarding both the medical care process and satisfaction with many aspects of performance.

Use of a core set of questions in various survey instruments could be a reasonable alternative. Although health plans may need more detailed information for internal quality improvement purposes, other users interested in making comparisons across plans would benefit from a more limited but carefully selected set of performance measures. In addition, mandating one particular instrument could stifle innovation and cause a loss of historical trend data for plans that benefit from year-to-year comparisons of survey results.

Standardization of only a few questions poses certain methodological challenges. First, caution must be taken to ensure that the set of questions selected is not biased for or against particular types of managed-care plans, but provides a balanced picture of each type's strengths and weaknesses. Second, since respondents' answers to specific questions can be influenced by the context in which the questions are asked, it will be important to consider how best to incorporate standard questions into commonly used surveys.

Special Data Collection Efforts. There are certain instances where it may be desirable to rely on special data collection efforts. In particular, there seems to be much potential to enhance performance measurement and provide assistance to physicians in medical decisionmaking through the use of instruments that record data as care is being provided. If designed properly, these instruments can provide a structured approach to provider decisionmaking processes and can give immediate feedback to providers. In some instances, concurrent data collection tools can also be more cost-effective than retrospective medical record retrieval.

RISK MEASUREMENT

A considerable literature has developed on approaches to risk measurement. In general, the development of prospective risk-assessment models would make it possible to adjust either premiums paid to plans or premium or expenditure limits that apply to plans (or states) under health system reform.

Prospective risk assessment is the prediction of efficient use of health services for a defined population in a future period based on current information on health status and propensity to use medical care (Hornbrook and Goodman 1991). Risk assessment is difficult mainly because it must predict future diseases and health problems, as well as interactions among comorbidities, underlying health status, and general propensity to use health services.

Because of its importance, especially to the private insurance market, risk measurement has been a topic of much research over the past decade (Lewin/ICF 1990). Most of the empirical work has been done with the aged population because of the availability of Medicare data and the interest in setting a risk-adjusted capitation rate for Medicare (Epstein and Cumella 1988). More recently, a set of state-of-the-art studies on working-aged populations was published by the Kaiser Permanente Inter-regional Risk Adjustment Task Force.²³

This section summarizes the results of this previous work. When necessary, it also highlights the differences between the elderly and nonelderly populations. It gives particular attention to measures based on demographic variables and self-reported health status because these are relatively easy to collect and have yielded good results in recent research on the working-aged population.

Risk is defined as the expected distribution of per capita costs of efficiently provided health care services to a defined group for a specific future period. It should be emphasized that risk applies to efficient use of medical care — the minimum services necessary to provide adequate access and quality care. Risk also applies to a group, because predicting individual use would require identifying instances of overuse, underuse, poor quality, and access barriers. Risk adjusters for plan premiums need only predict variation in total use of services by enrollees, not individual use of services. Thus, there is no need to predict which mothers will have costly premature infants, only whether one group is likely to have more high-risk births than another group.

Health status and a pattern of using health services are therefore postulated to be the only characteristics that should be incorporated in a risk assessment model. Acute transitory variations are assumed not to persist long enough to affect future use. Categories for measuring risk can generally be grouped into those based on prior utilization and those based on demographics or health status.²⁴

Risk Measurement Based on Prior Utilization

One approach to risk measurement is to use existing morbidities as indicated by prior use of services. One set of such measures uses diseases treated in a hospital during a baseline period. Chronic diseases requiring hospitalization are expected to persist over time, and some serious acute diseases may recur or become chronic. Therefore, hospitalization may be a general indicator of poor health, especially because it accounts for the largest share of

²³ In 1988, Kaiser Permanente established the Inter-regional Risk Adjustment Task Force to examine different methods for measuring health plan risks and to develop options for adjusting employer contributions for selection effects. The work of the task force was published in 1991 in volume 12 of *Advances in Health Economics and Health Services Research*.

²⁴ For a list of criteria for evaluating risk-assessment methods and a case study of one employer's approach to adjusting health-plan contributions made on behalf of employees, see Anderson (1991).

medical expenses. One study found that 52 percent of all hospitalizations were among persons experiencing repeated hospitalizations associated with the same disease (Zook and Moore 1980; Zook et al. 1980). The Cost Related Groups (CRGs), Diagnostic Cost Groups (DCGs), and the Payment Amount for Capitated Systems (PACS) are all examples of this approach to risk measurement (Anderson et al. 1986; Ellis and Ash 1988; Ash et al. 1989). These systems generally seek to distinguish predictive hospitalizations from those not expected to recur.

Use of inpatient morbidity as a measure of risk, however, has many drawbacks. First, to the extent that a hospital stay represents a successful cure, utilization in the next period would be low. Second, only a small percentage of the population is hospitalized in any year.²⁵ Third, although most risk-measurement methods control for discretionary hospital admissions, hospitalization could be sensitive to physician practice. The data requirements for using inpatient morbidity are modest, since routine claims and billing forms usually contain measures of morbidity such as diagnosis. But these measures, although objective and verifiable, are not considered very accurate as currently collected. In addition, the cost of processing these data under the systems for CRGs, DCGs, or the PACS could be large.

Supplementing inpatient information with outpatient morbidities is a logical extension of this approach. Measures of ambulatory morbidity can detect the presence of a disease not treated in the hospital. In addition to diagnoses that may appear on a claim form, these measures may incorporate indicators of disease derived from clinical assessments or laboratory analyses (Newhouse et al. 1989). Because ambulatory encounter data are not universally collected, the data requirements for these measures could prove to be a serious drawback.

A new case-mix methodology that relies on outpatient morbidities was developed by Weiner and his colleagues (1991). Called the ambulatory care group (ACG), the system uses demographic information, ambulatory diagnoses (ICD-9-CM codes), and conditions to classify people of all ages into 51 ACGs through four stages of categorization. This system has many potential uses besides capitated ambulatory payment, such as utilization review or physician profiling. It could also be used to complement a risk measurement system based primarily on inpatient utilization such as DCGs or the PACS. ACGs, however, have not been tested on a national random sample.

Prescribed drugs and their dosage intensity can provide information about treated illnesses and their severity (Hornbrook et al. 1991b). There are, however, significant drawbacks to basing risk adjusters on drug use. Because drugs can be prescribed inappropriately, a risk-measurement system that incorporates drug use may eventually encourage inefficient utilization. Most important, the data are not readily available in many health plans.

²⁵ Less than 10 percent of the over-65 population is hospitalized in any year (Ellis and Ash 1988; Hornbrook et al. 1991a); the proportion would probably be even smaller for a younger population.

A final measure of risk in this category captures chronic or acute conditions requiring some type of continuing care (Beebe et al. 1985; McCall and Wai 1983; Anderson and Knickman 1984; Lubitz et al. 1985). This type of prior-use risk measure, however, does not predict future expenses for the younger population as well as it does for the elderly population (Hornbrook et al. 1991b; Hornbrook et al. 1991d). It also has weaknesses in that utilization may be provider induced. In addition, it may encourage inefficient use, because efficient plans may appear to have lower risks than inefficient ones.

Risk Measurement Based on Demographics and Self-Reported Health Status

Utilization measures require a person to come into contact with the medical care system in order to obtain the information required for risk assessment. Nonusers of services, therefore, fall into an undifferentiated category. Measures based on demographics and health status have the potential to distinguish more generally among people, regardless of prior utilization of health services.

Sociodemographic factors are known to be related to future use of health services (McClure 1984; Lubitz 1987). They are also used regularly by insurers to adjust premiums charged for individual (nongroup) coverage. The most common variables considered are age and sex; others include marital status, education, disability status, employment status, occupation, and industry. The main drawback to these variables as measures of risk is that they do not directly measure health status. The main advantage is that they are routinely collected, objective, and easily verifiable. Whereas numerous studies have downplayed the value of demographic data, many of these have studied variation in *individual* medical costs (Epstein and Cumella 1988; Newhouse et al. 1989; Van de Ven and Van Vliet 1992). Studies that have sought to explain the variation in *group* costs per person with demographic variables have been more successful (Hayes 1991).²⁶

The presence of various illnesses or medical conditions is commonly used by insurers in the individual insurance market to determine which people are considered substandard risks or uninsurable. The Office of Technology Assessment surveyed insurers on their underwriting practices and identified nearly 50 conditions for which people could be denied coverage, could be charged a higher premium, or could receive a waiver that excludes a particular medical condition from coverage (OTA 1988). Conditions ranged from allergies and asthma (for which higher premiums would be charged) to AIDS, leukemia, and epilepsy (for which coverage would be denied).

The presence of such illnesses or conditions could also be used to measure risk. Risk measurement, for example, could be based on health status indicators that may appear in

²⁶ It is generally easier to explain variation in group costs for larger groups.

administrative data sets. Newhouse (1986) considered disability to be an almost ideal adjuster because it exists in plans' administrative records and seems unlikely to be manipulable. But such a measure still requires that those making risk adjustments have access to databases held by insurers or others.

Self-reported health status could be a useful measure of risk for several reasons. For one, it identifies a person's underlying health status and propensity to use medical care, because he or she can report any condition that could require medical intervention. Self-reported health status could also assess behavioral risk factors such as smoking and drinking. In addition, data requirements for self-reported health status are minimal. Measurement could be accomplished without access to plans' data systems, especially under a structure where everyone enters the system through a centralized enrollment process.

But this type of risk measurement has drawbacks as well. First, individuals may not be aware of all relevant health problems. In addition, it is susceptible to subjective interpretation if the conditions to be reported are not rigorously defined. Most important, measuring risk through self-reported health status is vulnerable to gaming and manipulation if the report is perceived as leading to economic benefit or penalty. Plans could coach current enrollees to report even marginal conditions. This contingency could be limited if rigorously defined health status measures were used and if information was collected by an entity other than the plan. Use of the SF-36 instrument for assessing health status, for example, might reduce subjective interpretation or gaming.

More recent research has suggested that self-reported health status has good potential for predicting future use in younger populations (Hornbrook et al. 1991c). Coupled with its administrative feasibility, it should receive further research attention.

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SUMMARY OF CONFERENCE ON PRACTICE EXPENSE

The Commission on November 19, 1992, sponsored a conference on resource-based practice expenses under the Medicare Fee Schedule. The conference provided a forum for exchange among those who have been studying this issue to help the Commission understand the range of strategies for calculating these expenses, as well as the strengths and weaknesses of each. Along with presentations by six researchers who have been working in this area, the conference included a discussion among two practice consultants and the chief executive of a large multispecialty clinic. Inclusion of these three individuals helped link the sometimes theoretical work of the researchers to the practical concerns of physicians and practice administrators. A second discussion session gave the six presenters a chance to probe one another's ideas. The rest of this appendix describes the presentations and discussions at the conference. Chapter 8 of this report addresses practice expenses and reflects the ideas and findings from the conference proceedings.

CONFERENCE PRESENTATIONS

In addition to the Commission's work over the past few years, there have been a variety of research projects on physician practice expenses both at the Health Care Financing Administration (HCFA) and at university and private research centers. The morning presentations summarized the approaches and, where appropriate, findings of most of these projects.

A Resource-Based Approach to Calculating Practice Expense Relative Values

The OBRA89 method and the Commission's approach were presented by Katie Merrell, a Senior Analyst with the Commission. Briefly, the OBRA89 approach calculates practice expense relative values from services' average allowed charges under the previous payment policy and survey information on the share of revenues devoted to practice expenses by different specialties. These survey data are used to create service-specific practice expense shares that reflect the mix of specialists who provide each service and are multiplied by the average allowed charge to calculate relative values. By contrast, the resource-based method developed by the Commission divides practice expenses into direct costs, those attributable to the provision of a particular service, and indirect costs, those that are common to many or all services. Under this approach, service-level data on resource use are required for the direct-cost portion of expenses, while some allocation rule can be chosen to allocate indirect costs across services. Originally, the Commission favored using physician time as the basis for indirect cost allocation. But because time data were available only for a small number of

services at the time of the Commission's analysis, a different basis (the sum of physician work and direct cost relative values) was chosen. The differences between the OBRA89 and resource-based methods, as estimated with limited data on direct costs, were summarized with several tables from the Commission's report on this topic (PPRC 1992).

The potential redistribution across specialties has led staff to investigate differences in the reported level and composition of practice expenses for different specialties. Using data from the Physician Practice Cost and Income Survey (PPCIS), analysts at the Center for Health Economics Research (CHER) and Project HOPE have been working with the Commission staff to investigate reported differences in practice expenses across specialties, like those shown in Table 8-3. The simple means show that surgeons, on average, spend more for nonphysician personnel but hire as many full-time equivalents (FTEs) as medical specialists. Although this may reflect use of more highly qualified medical personnel, the PPCIS data also reveal that a larger share of the average surgeon's staff is administrative personnel. In addition, these surgeons spend, on average, more on office-related costs, despite the reported difference in percentage of patients seen in the office. While most of the differences in the means reported in the table are not statistically significant, multivariate analysis of PPCIS data do reveal statistically significant higher reported labor and rent expenses for surgeons than for general practitioners or medical specialists.¹

HCFA Perspectives on Practice Expense Relative Values

Jesse Levy and Al Pedon of HCFA's Office of Research and Demonstrations (ORD) described HCFA's extramural and intramural research activities related to practice expenses. Three of the conference's speakers are involved in HCFA-sponsored research that will be described below. In addition, CHER is involved in developing cost functions.

HCFA has conducted some analysis of the Commission's approach and concluded that physician time would be a superior basis for allocating indirect costs than that used in the Commission's research. HCFA staff reported that physician time data are now available for a much broader array of services than when the Commission did its study and thus could be used to develop relative values for the fee schedule.

HCFA's intramural work, however, has been focused primarily on developing marginal cost estimates for groups of services using Medicare claims data. Presumably, this analytic approach could generate marginal cost estimates, somewhat comparable to direct costs, without requiring the same volume of data from physicians' practices.

¹ These regressions controlled for presence of salaried M.D. in practice, region, acceptance of Medicaid and Medicare patients, practice size, urban location, rent and wage indexes, medical or surgical subspecialty, and the interactions among many of these variables. Because the regressions included dummy variables for specialty, only solo and single specialty group practices were included; the univariate measures in Table 8-3 include these practices plus multispecialty groups.

This research has used regression analysis to estimate marginal costs based on practice cost data from the PPCIS and service volume and mix data from Medicare claims data. Even though the HCFA researchers have had some success with this approach, they report getting unreasonable estimates of costs for some service groups. They hypothesize that estimates are most reasonable for the services for which Medicare accounts for a large volume share. To improve estimates for other services, they are trying to find all-payer data sources that would help account for a larger share of total service volume. Without such data, they are unsure that this approach will be able to yield useful marginal cost estimates. There was no explanation of how these estimates could be used to develop relative values and how, or whether, they would be combined with fixed (or indirect) costs.

In addition to current HCFA research, some overall concepts central to this area of research were reviewed. The trade-off between fairness and incentive neutrality was discussed, as was the possible difference in short-run versus long-run criteria for analyzing a payment scheme for practice expenses. Concepts such as fixed versus variable costs are inherently short-run concepts because, over time, all costs are variable. These concepts are relevant to all of the research in this area and should be included in analysis of alternative approaches.

Role of Microcosting Study in Developing a Resource-Based Estimate of Direct and Indirect Costs

The Center for Health Policy Studies' (CHPS) staff has been involved for several years in a variety of microcosting studies for both HCFA and other clients. Staff members are currently conducting a large study of practice costs for HCFA that involves collecting detailed cost data from 48 hospital outpatient departments, 48 ambulatory surgical centers, and 48 physicians' offices. The purpose of the study is to provide HCFA with a national database of resource costs that can be used to examine, among other things, options for a prospective payment system for outpatient care under Medicare. Therefore, the unit of analysis is the ambulatory patient group (APG). Both direct and indirect costs will be measured — different indirect cost allocation rules will be used for different types of services. The physicians' practices included in the study are all group practices located in the same cities as the randomly selected institutional providers.² Study practices vary in size from small to large, with an average of about 10 physicians per practice. Upon completion, data will be available for more than 500 physicians. Data are expected to be available by mid- to late 1993.

This study is likely to provide information on several issues related to physicians' practice costs, including:

- measurement of direct resources used in physicians' practices for high-volume procedures and visits;

² This approach to choosing practices does not guarantee a random sample but was necessary to minimize study costs.

- measurement of indirect resource requirements of physicians' practices;
- comparisons of resource requirements and costs in physicians' practices with those of outpatient departments and ambulatory surgical centers;
- identification of factors responsible for cost differences across settings;
- comparison of costs to current practice expense relative values of the fee schedule; and
- comparison of key data elements to national surveys, such as the National Ambulatory Medical Care Survey and the American Medical Association's annual survey of physician practice characteristics.

While only group practices were included and the number of physician practices is small, the relatively large number of services (from a Medicare payment perspective) and fully developed data collection and measurement methodologies make this a promising resource for further development and refinement of resource-based practice expense relative values under the Medicare Fee Schedule.

Physician Hospital Activities and Practice Costs

Mark Pauly, University of Pennsylvania, described two approaches to measuring practice costs: bean counting and statistical regression analysis. Although bean counting allows for apparently accurate accounting of the costs incurred in different activities, it may not be generalizable and may overlook subtle effects. Therefore, it was suggested that regression offers an attractive check to the accounting exercise. In this HCFA-sponsored project, regression analysis of the American Medical Association's (AMA) annual survey data was used to investigate the costs to a physician's office of services provided off-site. Such costs may occur because of the need for office-based prehospital and posthospital services, the increased challenge to office coordination presented by hospital-based care, and the possible inefficiencies required in office function to accommodate random demand for hospital care in the course of each day. It may also be the case that physicians with relatively higher hospital-based caseloads may have sicker patients.

To test the hypothesis that there are more than billing costs incurred for nonoffice care, AMA data were used to estimate marginal practice costs for office, emergency room, and hospital-based care.³ The estimates suggest that significant costs (from \$17 to \$69 per hour) are

³ This analysis implied that the Commission's approach pays only billing costs for non-office services. Under the Commission's approach, non office services also receive indirect cost payments and payment for the direct costs associated with office-based care included in global services. While the findings in this presentation were presented in comparison to the \$1.52 billing cost included in the Commission's approach, different divisions of costs into indirect (or fixed) and direct (or marginal) were used in the two studies and may account for much of the apparent discrepancy between them.

associated with nonoffice care and that these costs vary across specialties, with primary care physicians facing higher costs than surgeons and other specialties. While allowing only for billing costs may underpay physicians for nonoffice services, the overhead costs allocated based on physician work may more than offset this. Overall, the regression approach was presented as a useful tool for evaluating and refining bean-counting exercises but one that is unlikely to be useful for establishing service-level marginal cost estimates.

Paying Physicians for Their Practice Expenses: The Practice Characteristics Approach

To achieve both equity and incentive neutrality, physicians should be compensated on the basis of their actual practice costs but should have no financial incentives with respect to type or volume of services provided. To achieve neutrality with respect to service volume, this approach, as described by Eric Lattimer of Harvard University, calls for payment per service that reflects direct costs incurred but not indirect costs. Instead, these should be made through a periodic payment reflecting Medicare's share of practice expense as determined by the characteristics of each practice. In particular, a fixed number of payment classes could be defined to reflect specialty, practice size, extent to which the practice is hospital-based, and practice location. Within each payment class, a periodic (e.g., quarterly, annual) payment could be made to each practice to account for Medicare's share of indirect costs.

The advantages of this approach are presumably that it is more equitable, incentive neutral, adjustable to reflect policy goals, and reduces economic incentives inherent in fee-for-service payment. The approach could be implemented by:

- reducing the fee schedule practice expense payment to reflect direct costs only,
- using physician-reported information to assign practices to payment classes,
- determining periodic payment from the practice class and Medicare's share of the practice's caseload, and
- making payments to practices, not individual physicians.

By allowing service-level payments to reflect only marginal costs and making lump-sum payments for fixed costs, this approach solves many economists' concerns over the use of average costs in the fee schedule.

Using Ramsey Pricing Principles to Allocate Indirect Costs

In an effort to account for the behavioral incentives inherent in any price change or cost allocation scheme, Ramsey pricing principles have been used in setting regulated prices that

minimize market distortions in a variety of regulated markets. This principle was discussed by Gerald Wedig, University of Pennsylvania. In particular, the approach assigns relatively higher prices to services for which demand is least price responsive. If done correctly, the approach should allow businesses in a regulated market to recover overhead costs with as little market distortion as possible.

In the context of the fee schedule, this approach could be used to allocate indirect costs to those services that are less susceptible to demand creation. For example, if physicians provided two services, office visits and fracture-setting, the Ramsey pricing approach would allocate relatively more indirect costs to the fracture-setting service, since physicians are less likely to manipulate the need for this service relative to visits. Ideally, the approach would minimize Medicare program outlays while ensuring that at any level of outlays, a more appropriate mix of services would be provided, since demand creation is minimized. The Ramsey pricing approach tries, in effect, to anticipate the behavioral response of physicians to price changes rather than to react to them, as the Volume Performance Standard (VPS) currently does. Current estimates, developed as part of a HCFA-sponsored project, suggest that use of Ramsey pricing would save up to 10 percent in total outlays compared with the OBRA89 method and the Commission's approach.

Implementation issues include the need for both direct cost data and behavioral parameters (price sensitivity), which may be difficult to develop. The Ramsey price method may lead to a distribution of indirect costs across physicians under which physicians may not recover their indirect costs if they provide a mix of services perceived to be vulnerable to demand creation. Because of the likely difficulty in developing service-level behavioral parameters, it was suggested that the approach may be more effectively used as a tool for fine-tuning fee schedule payments by targeting, for example, price reductions to those services that appear most responsible for departure from VPS targets.

SUMMARY OF CONFERENCE DISCUSSION

The first group of discussants stressed the need to "keep it simple, stupid." They stressed that physician practices all have different goals and problems and so are likely to view any change as disruptive. Therefore, it is quite important that a change be based on concepts that are easily understood by the physician community and that an effort is made to educate physicians about the need for and the goals of any change. They thought that use of specific data generalized for policy use would be more acceptable to physicians than the regression-based methods described above (Levy, Pauly, and Wedig). It was also noted that, while physicians historically may not have been interested in or attuned to thinking about costs, other health care purchasers are starting to ask for detailed cost information when negotiating with providers. They noted that it is important to pursue the issue of resource-based practice expenses to truly "level the playing field." There was general concern that the practice characteristics approach would invite gaming, require substantial reporting, and be difficult to

verify. There was some discussion of the issue of office costs incurred for nonoffice care; the consensus seemed to be that a reasonable approach to handling staff downtime should address any major issues presented.

During the second discussion, it was observed that there may have been more agreement among the presenters than was obvious from the presentations. The analyses presented implicitly accepted the notion underlying the Commission's approach: that there are two types of costs (direct and indirect) that should be explicitly recognized and separately estimated under the fee schedule. The emphasis of the presentations on issues surrounding indirect cost allocation and site-of-service cost differentials suggests that the researchers accept as a given the need to account for these different types of costs separately.

There was some discussion of accounting for medical staff downtime under a resource-based approach. Whereas some argued that these costs could appropriately be allocated in tandem with the medical staff resources required by different services, others suggested that these should be considered indirect costs.

A review of the plans for the CHPS study led the group to agree that it is likely to produce a dataset useful for development of resource-based relative values. The study clearly uses a somewhat limited sample, but there was agreement that there may not be any important bias in the relative resource use revealed by study respondents. While some observers have questioned the use of group practices in the Commission's report, the use of the CHPS data was perceived to be appropriate for a variety of reasons:

- the goal is to measure relative, not absolute, levels of resource use;
- there is a trend toward group practices;
- there is a considerable range in practice size among the study practices; and
- there is no consensus that groups are more (or less) efficient than other practices.

The possible impact of recent payment policy on observed practice expense levels and composition by different specialties was discussed. While at first some participants thought that in a market economy payment policy should not distort the components of expenses, there was ultimate agreement that the current levels and composition of expenses may indeed reflect historical payment levels. Therefore, even though analyses of changes in payment policy necessarily compare new schemes to current expenses reported by physicians, it is important to remember that this status quo does not necessarily reflect an optimal distribution.

A review of the lump-sum payment approach to paying for indirect costs led to discussion of likely administrative problems. For example, it may be difficult to develop payment classes that are few in number and homogeneous, so the system may quickly become administratively burdensome. The approach would also require additional reporting and monitoring activities. Finally, however, the ability of this approach to create an incentive-neutral environment would be limited if it were used only for Medicare payments. The fact that other payers would continue to include all practice expenses in payments per service could severely limit the impact this approach would have on resource use.

Some discussants wondered about the feasibility of estimating relative values through the Ramsey pricing principles. Proponents of the Ramsey pricing approach agreed that it could not realistically be used to calculate relative values for every service in the fee schedule — it would be virtually impossible to estimate reliable price-sensitivity parameters for every service. They suggested, however, that it could be used to refine the values established through another approach, such as that described in the Commission's report, by developing estimates for groups or families of services. Ramsey-adjusted values could, however, lead to a payment scheme under which some physicians would be unable to recover Medicare's share of indirect costs, even if they provided services that were thought to be of value to Medicare beneficiaries. The approach also depends on a notion of indirect (or fixed) costs that may vary over different time horizons because, as noted earlier, all costs are variable in the long run.

In general, the analytic approaches of Ramsey pricing and marginal cost estimation were viewed as helpful tools for refining estimates developed from the accounting approach that underlies the Commission's and CHPS projects.

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1992 COMMISSION RECOMMENDATIONS ON MALPRACTICE REFORM

In the Omnibus Budget Reconciliation Act of 1990, the Congress directed the Commission to make recommendations regarding medical malpractice reform. The Commission began its work by analyzing the problems of the malpractice system and setting out goals for reform in its *Annual Report to Congress 1991* (PPRC 1991). In its 1992 annual report, the Commission offered recommendations that included both steps to be taken now to restructure the nation's malpractice system and interim measures to improve the functioning of the current system.¹

The federal government's interest in malpractice reform is derived from the overall aims of health care reform: to limit costs while improving quality and access. An important federal interest is to ensure that Medicare, Medicaid, and the health care system as a whole deliver high-quality care. In theory, the malpractice system should provide a strong external incentive to deliver such care. But in practice, it is difficult to demonstrate the marginal benefit of the system in deterring negligent medical injury. The rates of avoidable injury — particularly among Medicare patients — suggest there is considerable room for improvement.

As a principal payer, the federal government is interested in constraining the cost of health care. The malpractice system affects costs in several ways. It may impose on the health care system a single standard of care that is not cost effective. In addition, many believe that the current system leads to the practice of so-called defensive medicine, resulting in the widespread delivery of services that are not otherwise indicated. The malpractice system can help or hinder efforts to decrease the amount of unnecessary or unduly expensive care, depending on whether it sanctions the delivery of unneeded care or makes it risky for providers to deliver cost-effective care. Both malpractice insurance premiums and treatment for avoidable injuries contribute to health care costs.

Another federal concern is access to care. The malpractice system can affect access if malpractice insurance is too costly in relation to payments for services, if insurance is unavailable, or if providers decline to deliver high-risk services — or services to high-risk patients — for fear of being sued (Pear 1991).

Although much is not known about medical malpractice, it is increasingly recognized that the performance of today's malpractice system compromises these key federal interests. The problems plaguing the system are sufficiently complex and intractable that piecemeal or

¹ For a full discussion of the issues and the Commission's recommendations, see Chapter 19 of the Commission's *Annual Report to Congress 1992* (PPRC 1992).

limited reforms are unlikely to have a major impact. The Commission has therefore formulated recommendations for federal actions to improve the malpractice system.

In its *Annual Report to Congress 1992*, the Commission set out a conception of a future malpractice system that would represent a great advance over the current one (PPRC 1992). This system cannot be implemented immediately, because much developmental work is needed to ensure its feasibility and affordability. The Commission's recommendations focused on steps that should be taken now to prepare for the future adoption of a system similar to that envisioned. In addition, the recommendations included interim measures to improve the functioning of the current system. The chapter concluded by discussing the relationship of malpractice reform to cost containment.

THE TASK FOR REFORM

In its 1992 annual report, the Commission identified four problems that are the challenge of reform efforts. First among them is to reduce the rate of medical injury. Although medical care in the United States is generally of high quality, the incidence of preventable medical injury should be lowered. Second, the malpractice system must compensate patients fairly who experience a medical injury. Too few patients are being compensated today, and the awards are variable. Further, much attention is focused on the unknown but possibly high cost of defensive medicine. Finally, the system is inefficient, resulting in high administrative costs and long delays in resolving claims. Malpractice reform must be informed by an understanding of the underlying causes of these problems.

The ability of the current system to reduce the number of injuries is limited by its failure to collect and systematically analyze data with which to design and implement measures to prevent medical injuries. At present, most injuries do not result in claims, and databases are largely fragmented. Knowledge about the causes and prevention of medical injury is scarce. In addition, incentives for providers (including health care workers, hospitals, clinics, and other health care organizations) to participate in formal injury reduction efforts are not as effective as they should be.

Compensation is not consistent, timely, or proportionate to losses. Nor is it available to all who may qualify. The accuracy of determinations of liability is impaired by the difficulty of applying the negligence standard to individual cases. Awards for noneconomic damages, in particular, are highly subjective and variable. Lengthy delays are characteristic of today's legal process.

Cost-effective care may be deterred to the extent that the malpractice system requires the delivery of more expensive care than would be desired by those ultimately bearing its costs. The legal standard of care results from ad hoc decisions of juries, the retrospective opinions of expert witnesses, and professional practices that may be influenced by incentives that

increase the delivery of services. Paradoxically, the practices of the health care system may also be driven by its perceptions of possible legal liability.

Defensive medicine represents unnecessary or inefficient care delivered to reduce the risk of liability. Its extent and cost are unknown but may be substantial. Several factors may contribute to defensive medicine. The negligence standard does not provide a good prospective guide to decisionmaking. Furthermore, the application of the standard to individual cases by physicians is unreliable and biased by knowledge of the outcome of care (Brennan et al. 1989; Caplan et al. 1991). In addition, physicians probably apply the standard differently than do juries. Judgments of liability that are inconsistent across similar cases, made by lay juries meeting one time, may also contribute to defensive medicine. The medical profession's lack of agreement about what care is effective, as well as misperceptions of physicians about the legal standard of care, may also be contributors.

The high administrative costs of the current malpractice system are due to the formal processes for discovery of information, preparation for and conduct of the trial itself, and the use of expert witnesses. These reflect the need for extensive information and understanding that is associated with an inquiry into individual fault. High procedural costs are barriers to filing claims for many potentially compensable injuries, particularly those that are less serious or that entail relatively minor economic losses.

TOWARD A MALPRACTICE SYSTEM OF THE FUTURE

Solving the problems plaguing today's malpractice system will require a new approach to preventing injury and compensating patients. A possible future system that would address the underlying causes of the present system's malfunctioning would have two components. One would be a fast, efficient administrative compensation mechanism that would provide adequate insurance to patients who experience preventable medical injuries. The other would be a parallel structure for monitoring, quality review, and the design and implementation of measures to reduce the rate of injury. The key feature of the proposed system is the separation of decisions about compensation and quality of care. Decisions related to each of these areas would be accomplished by a structure and process designed specifically for that purpose.² Clear criteria for compensability and for damages awards would be established, whereas judgments about quality of care in individual cases would be made in forums better suited to that function.

The administrative compensation system would provide access for as many compensable claims as qualify, yet place limits on compensation to keep the system affordable. Enhanced

² The two parts of this system could be separated in structure as well as function, or they could be housed within a single administrative agency.

access would be achieved by lowering economic and other barriers to filing claims, ensuring legal representation, and helping patients to realize when they have experienced a potentially compensable injury. Injuries would also be detected by data-based surveillance and by encouraging or requiring the cooperation of providers in identifying and reporting potential claims. Nonmeritorious claims would be screened out early, and the overall process would be expedited and efficient. It is possible that an even simpler, less formal process could be instituted for smaller claims.

Compensation would be based on a reliable standard for compensability, such as one involving avoidability of the injury. Accelerated Compensation Events (ACE) offer one possible way to identify prospectively injuries that are usually avoidable with good care. This approach would largely retain a fault basis for compensation but dispense with the need for case-by-case determinations of fault.

The injury prevention/quality improvement system would receive information from the compensation system, its own surveillance mechanisms, and voluntary reporting. It would collect and analyze data on injuries, thereby facilitating the design and implementation of interventions. Insurance premiums would be experience rated, based on the claims experience of the organization or system that would best be able to intervene to prevent injuries. Ideally, this system would be part of a broader continuous quality improvement process throughout the health care system. The system would have an appropriate balance of public and professional input.

Considerable developmental work is necessary for this system to be realized. The components can be developed in an evolutionary manner and implemented independently. The Commission's *Annual Report to Congress 1992* described more fully the building blocks that must be put into place (PPRC 1992). Among these are better systems to prevent injury, an administrative process to award compensation, and a reliable standard for determining compensability.

The Commission's recommendations in its 1992 annual report identified what should be done now to facilitate the development of each component of the future malpractice system. It is worthwhile to take each of these steps to improve the current system. The greatest potential for progress, however, lies in implementing the recommendations in such a manner as to build toward the new system outlined above.

RECOMMENDATIONS

The federal government should ensure that practitioners, hospitals, and health care organizations engage in effective efforts to reduce injuries related to inpatient and outpatient medical care, including those due to negligence. These efforts should be assisted by federally sponsored initiatives and additional funds for research.

The Congress should authorize, fund, and facilitate the development and assessment of demonstrations of administrative or other systems for compensating patients for injuries due to medical negligence. The demonstrations should assess features that could be used in a future compensation system to promote fast, efficient, and accurate resolution of claims.

The Congress should support the development and testing of alternative standards for determining compensability. Demonstrations of alternative systems for compensation should include and assess the use of alternative standards when possible.

As part of a package with other reforms, the Congress should effect the widespread adoption of certain tort reforms, including:

- reasonable limits or schedules for noneconomic damages and attorneys' contingency fees,
- thresholds for joint and several liability,
- offset of awards for collateral source payments,
- periodic payment of large awards,
- reduction to a reasonable period of long statutes of limitations for minors, and
- encouragement of early assessment of claims and use of alternative dispute resolution methods.

The Agency for Health Care Policy and Research (AHCPR) should sponsor studies of the effects on patients of malpractice reforms and demonstrations. Funds for malpractice research should be identified separately in AHCPR's budget.

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APPENDIX D

BIOGRAPHIES COMMISSION MEMBERS

RICHARD V. (DICK) ANDERSON

Richard V. (Dick) Anderson is Vice President of Medical Economics and Statistics for the Kaiser Foundation Health Plan, Inc. and Kaiser Foundation Hospitals, a position he has held since 1980. His responsibilities include rate setting, benefit design, reporting and data analysis, market research, and health services research. In addition, he actively represents the Plan in relations with employers, consultants, government agencies, business coalitions, and other external organizations. Mr. Anderson received his bachelor of science degree from Washington State University, earned a master of public health degree from the University of California at Berkeley, and has completed the Harvard Business School's Advanced Management Program. In February 1993 he was appointed interim Chairman of the Physician Payment Review Commission.

LINDA H. AIKEN

Linda H. Aiken, Ph.D., is Trustee Professor of Nursing; Professor of Sociology; Director of the Center for Health Services and Policy Research; and Senior Fellow, Leonard Davis Institute for Health Economics at the University of Pennsylvania. Before joining the University faculty in 1988, she was Vice President of the Robert Wood Johnson Foundation for 13 years. Dr. Aiken is a frequent adviser to federal and state policymakers. She is the author of numerous scientific and policy papers on access to health services, and the organization and financing of health services, particularly AIDS care and health manpower policy. Dr. Aiken is a member of the Institute of Medicine of the National Academy of Sciences and the National Academy of Social Insurance, and serves on the National Advisory Council of the Agency for Health Care Policy and Research. A former President of the American Academy of Nursing, Dr. Aiken was also a member of the 1982 Social Security Advisory Council. She has served on national advisory groups on the organization and financing of long-term care for the elderly. She received nursing degrees from the University of Florida at Gainesville, and a doctorate in sociology and demography from the University of Texas at Austin.

DREW E. ALTMAN

Drew Altman, Ph.D., is President of the Henry J. Kaiser Family Foundation, one of the largest private foundations devoted exclusively to health. Dr. Altman is a former Commissioner of the Department of Human Services for the state of New Jersey (1986-1989), where he is credited with the design and implementation of the state welfare reform program, the redesign of policies and programs for the homeless, and the development of major school-based initiatives for children. Dr. Altman was also the Director of the Health and Human Services Program at the Pew Charitable Trusts and Vice President of the Robert Wood Johnson Foundation. Before joining the Johnson Foundation, he served in a senior position in the Health Care Financing Administration. Dr. Altman received his doctorate in political science from the Massachusetts Institute of Technology and has published widely on health issues.

P. WILLIAM CURRERI

P. William Curreri, M.D., is President of Stratagem of Alabama, Inc., an international marketing and consulting firm in health care. Dr. Curreri has served as Professor and Chairman and Chief of Surgery at the University of South Alabama in Mobile. He also served on the faculty of the University of Washington School of Medicine in Seattle, and was named the Johnson & Johnson Professor of Surgery while on the faculty of Cornell Medical Center in New York. A member of numerous professional societies and organizations, Dr. Curreri is a former President of the American Burn Association, the Society of University Surgeons, the Halstead Society, and the American Association for the Surgery of Trauma. Author of numerous articles on surgery, Dr. Curreri is a consultant to and member of the editorial boards of several major surgical and burn care journals. He is past Editor-in-Chief of *The American Surgeon*. Dr. Curreri has been a frequent adviser to the National Institutes of Health and was a member of the Institute's Surgery, Anesthesia, and Trauma Study Section from 1980 to 1984, and served as Chairman from 1986 to 1988. He is a member of the American Board of Surgery and is a former member of the Executive Committee of the Board of Governors of the American College of Surgeons, where he was Secretary from 1987 to 1989. Dr. Curreri received his medical degree from the University of Pennsylvania and completed his surgical residency at the Hospital of the University of Pennsylvania.

KAREN DAVIS

Karen Davis, Ph.D., is Executive Vice President of the Commonwealth Fund. Positions previously held by Dr. Davis include Chairman of the Department of Health Policy and Management in the School of Hygiene and Public Health, The Johns Hopkins University; Deputy Assistant Secretary for Planning and Evaluation/Health, U.S. Department of Health and Human Services; Administrator of the Health Resources Administration, U.S. Public

Health Service; Senior Fellow at the Brookings Institution; Visiting Lecturer, Harvard University; and Assistant Professor, Rice University. She also served as Director of The Commonwealth Fund Commission on Elderly People Living Alone and was a member of the Maryland Governor's Commission on Health Care Policy and Financing. Dr. Davis is a member of the Institute of Medicine of the National Academy of Sciences; the New York Academy of Medicine; the Kaiser Commission on the Future of Medicaid; the U.S. General Accounting Office Comptroller General's Health Advisory Committee; Board of Directors, Somatix Therapy; and is a Senior Fellow, Brookdale National Fellowship. Dr. Davis also sits on several boards and committees concerned with health policy issues, and is the author of numerous books and articles on health economics and policy analysis, including *Health Care Cost Containment*; *Medicare Policy: New Directions for Health and Long Term Care*; *Health and the War on Poverty: A Ten Year Appraisal*; and *National Health Insurance: Benefits, Costs and Consequences*. Dr. Davis received her Ph.D. in economics from Rice University.

JOHN M. EISENBERG

John M. Eisenberg, M.D., M.B.A., is Chairman of the Department of Medicine, Physician-in-Chief, and Anton and Margaret Fuisz Professor of Medicine at Georgetown University Medical Center. He is a graduate of the Washington University School of Medicine, St. Louis. After his residency in internal medicine at the Hospital of the University of Pennsylvania, Dr. Eisenberg was a Robert Wood Johnson Foundation Clinical Scholar and earned a master of business administration degree at the Wharton School. He served as Chief of the Division of General Internal Medicine at the University of Pennsylvania from 1978 to 1992, where he was Sol Katz Professor of General Internal Medicine. A member of numerous professional societies and organizations, including the Institute of Medicine of the National Academy of Sciences and the Association of American Physicians, Dr. Eisenberg is currently President of the Foundation for Health Services Research and on the executive committee of the Board of Directors of the American Board of Internal Medicine. He is also a member of the Health and Public Policy Committee of the American College of Physicians, has served on the College's Board of Regents, and was coeditor of the General Internal Medicine component of the College's Medical Knowledge Self-Assessment Program VIII. Dr. Eisenberg has been a consultant to and member of the editorial boards of several major medical and health policy journals. He is the author of *Doctors' Decisions and the Cost of Medical Care*, and a coauthor of the 1992 book, *Paying Physicians* (Health Administration Press). He has also published numerous articles and chapters on topics such as physician practice, test use and efficacy, medical education, and clinical economics.

JACK GUILDROY

Jack Guildroy is a member of the Board of Directors of the American Association of Retired Persons (AARP). He has served as Chairman of AARP's New York State Legislative

Committee and on the Association's National Legislative Council. An educator for 37 years until his retirement in 1978, Mr. Guildroy taught mathematics and social studies in secondary schools in New York and Massachusetts. Most of his career was devoted to counseling students at the high school level. A co-founder of the New York State Counselors Association, he also worked actively with the College Board and its Committee on Guidance, and has written articles on the ethical-legal problems of counselors in the *College Board Review*. He helped establish the Retired Educators Chapter of the Great Neck Teachers Association, and is a board member of the Friends and Relatives of the Institutionalized Aged, Inc. Mr. Guildroy received his bachelor's degree in mathematics and his master's degree in history from the University of Rochester. He has a permanent certificate in counseling from Columbia University Teachers College and has taken graduate studies at New York University and the New School for Social Research.

ROBERT B. KELLER

Robert B. Keller, M.D., is an orthopedic surgeon practicing in Belfast, Maine. He is Executive Director of the Maine Medical Assessment Foundation, a health services research organization in Maine that deals with issues of variations of practice patterns, physician feedback and behavior change, and outcomes research. Dr. Keller received his medical degree from Cornell Medical School. After serving in the U.S. Navy, he undertook training in orthopedics in the Harvard University Combined Residency Program. He is an Associate Professor of Orthopedic Surgery at the University of Massachusetts Medical School and Adjunct Professor of Community and Family Medicine and Surgery at Dartmouth Medical School. A member of numerous professional societies, he serves on several committees of the American Academy of Orthopedic Surgeons and chairs the Committee on Outcomes. He has contributed several articles and chapters on the subject of small area analysis and physician feedback and is a co-investigator of a medical effectiveness/outcomes research team evaluating low back pain and surgical outcomes. He has served as President of the Maine Medical Association, and was a member of the Board of Directors of Medical Mutual Insurance Company of Maine.

PHILIP R. LEE

Philip R. Lee, M.D., Professor of Social Medicine, has been Director of the Institute for Health Policy Studies at the University of California, San Francisco (UCSF) since 1972. He served as Chancellor of UCSF from 1969 to 1972 and was Assistant Secretary for Health and Scientific Affairs in the Department of Health, Education, and Welfare from 1965 to 1969. Dr. Lee is the author of more than 100 articles in the health field and has coauthored numerous books. His teaching and research endeavors in the field of health policy focus on health care for the elderly, prescription drugs, physician payment, reproductive health policy, and AIDS-related policies and costs. A frequent adviser to federal, state, and local health

policymakers, Dr. Lee also serves on the boards of a number of nonprofit organizations. In 1986, he was appointed Chairman of the Physician Payment Review Commission. In February 1993, he resigned from his position as Chairman.

MICHAEL D. MCKINNEY

Michael D. McKinney, M.D. has been in a private family medicine practice for the last 17 years. He served in the Texas House of Representatives from 1984 to 1991, where he was Speaker Pro Tempore from 1990 to 1991. He authored and helped pass a number of health-care bills, including: The Rural Health-Care Rescue Act, Statewide Trauma-Care Bill, and the Omnibus AIDS Bill. He continues to serve as an adviser to professional organizations, state and local public officials, and the Texas Department of Public Health, while maintaining a busy private practice in the Houston area.

PATRICIA M. NAZEMETZ

Patricia M. Nazemetz is Director of Benefits for Xerox Corporation in Stamford, Connecticut. Her responsibilities include the design, development, and operation of the company's U.S. benefit plans and programs. She joined Xerox in 1979 as Benefits Operations Manager and subsequently has held several positions in the benefits department. She assumed her present position in 1988. Before joining Xerox, she worked for W.R. Grace & Co. Ms. Nazemetz serves as a Director on the boards of the Kaiser Health Plan of New York, the Matthew Thornton Health Plan, the National Committee for Quality Assurance, and the Washington Business Group on Health. She is also President of the Corporate Board of the International Foundation of Employee Benefit Plans. She is a member of the Academy of Women Achievers of the YWCA of New York City.

THOMAS R. REARDON

Thomas R. Reardon, M.D., currently serves on the American Medical Association (AMA) Board of Trustees. In addition to his activities in organized medicine at the county, state, and national level, Dr. Reardon has maintained a busy general practice in Portland, Oregon, for 28 years. Before being elected to the Board of Trustees, Dr. Reardon represented the Hospital Medical Staff Section in the AMA House of Delegates and served on the AMA Task Force on Physician Manpower. Dr. Reardon began his activities in medical politics with the Multnomah County Medical Society, where he was President from 1980 to 1981. He later held the offices of Vice President and then President of the Oregon Medical Association (OMA). He served as Chairman of the OMA Committee on Private Practice and Hospital Relations and the Committee on Health Planning. He was also a member of the OMA Legislative Committee and Board of Censors and Ethics Committee. In addition to his

involvement with organized medicine, Dr. Reardon has served on various community-based task forces to study health care for the medically indigent. He is active in issues affecting the elderly and participated on Congressman Ron Wyden's task force on Medicare reimbursement. Dr. Reardon received his medical degree from the University of Colorado School of Medicine.

UWE REINHARDT

Uwe Reinhardt, Ph.D., is James Madison Professor of Political Economy at Princeton University, where he has been teaching since 1968. Professor Reinhardt was a member of the National Leadership Commission on Health. He has served on several councils and task forces, including the Governing Council of the Institute of Medicine of the National Academy of Sciences; the National Health Care Technology Council of the Department of Health, Education, and Welfare; and the Veterans Administration's Special Medical Advisory Group. He also served as President of the Association for Health Services Research and on the editorial boards of a number of major health policy and economic journals. Professor Reinhardt is the author of *Physician Productivity and the Demand for Health Manpower* as well as numerous articles on health economics, accounting, and corporate finance. These works include a financial analysis of the Lockheed L-1011 Tri-Star, a cost-benefit analysis of the Space Shuttle project, and pricing strategies for the space shuttle. Dr. Reinhardt's consulting activities have included work for the U.S. Department of Health and Human Services, Mathematica Policy Research, the Urban Institute, and Econ Incorporated. He has been a consultant in management training, primarily in managerial economics and corporate finance, for several major corporations. He received his Ph.D. in economics from Yale University and an honorary doctorate from the Medical College of Pennsylvania in 1987.

COMMISSION STAFF

PAUL B. GINSBURG, Ph.D., is the Executive Director. He has long and varied experience with a wide range of health care financing issues, including physician payment, hospital payment, health insurance, and alternative delivery systems. He has written numerous scholarly articles and books on health care policy. Before joining the Commission at its inception in 1986, Dr. Ginsburg was a Senior Economist at RAND. He was Deputy Assistant Director for Income Security and Health at the Congressional Budget Office, where he prepared analyses for the Congress on federal health policy issues with significant budgetary implications. Dr. Ginsburg has served on the faculties of Duke University and Michigan State University. He earned a doctorate in economics at Harvard University in 1971.

LAUREN B. LeROY, Ph.D., is the Deputy Director. Before coming to the Commission, Dr. LeRoy served as Associate Director of The Commonwealth Fund Commission on Elderly People Living Alone. Prior to that, she was Assistant Director of the Institute for Health Policy Studies, University of California, San Francisco, and the Director of the Institute's Washington office. She also served as an analyst working on health care financing legislation in the Department of Health, Education, and Welfare. Dr. LeRoy's research interests and published work have focused on physician payment reform, physician training and practice, the nurse labor market, and health care for the elderly. She received her doctorate in social policy planning from the University of California, Berkeley.

NINA M. BRAGUNIER is a Junior Analyst. She received her bachelor degree in Mathematics from the University of Maryland. Her work at the Commission focuses on the technical aspects of large database analyses.

KENNETH R. COHEN is an Analyst. He holds master's degrees from the University of Michigan in health services administration and in public policy. Previously, he worked for the U.S. Centers for Disease Control and Prevention. He also completed a management internship at Saint Joseph Mercy Hospital in Pontiac, Michigan, and an internship with the U.S. Senate Special Committee on Aging. His work at the Commission centers on monitoring the adoption of the Medicare Fee Schedule by Medicaid programs and private insurers, national data systems, and health system reform.

DAVID C. COLBY, Ph.D., is a Principal Policy Analyst. He received his doctorate in political science from the University of Illinois. Previously, he held faculty and administrative positions at Williams College and the University of Maryland, Baltimore County. From 1986 to 1987, he was a Robert Wood Johnson Health Finance Fellow. At the Commission, he has developed simulations to estimate Medicare Fee Schedule payments and to study the impact of the fee schedule on physicians and beneficiaries. He is currently analyzing access for Medicare and Medicaid beneficiaries, and physician responses to the fee

schedule. In addition to his analytical and research responsibilities, he is a member of the Commission Staff Executive Committee.

DON COX, Ph.D., is a Senior Analyst. He received a doctorate in economics from the University of Maryland. Before joining the Commission, Dr. Cox was a Senior Economist at the Federal Trade Commission and Fu Associates, Ltd. In addition, he has worked in the Occupational Safety and Health Administration and the Department of Defense. His work at the Commission involves analyses underlying the Commission's recommendations on annual Medicare fee updates and Volume Performance Standards, and preparation of the Commission's reports to the Congress on these issues.

LORI GRUBER is a Junior Analyst. She recently received her master's degree in Public Policy and Management from Carnegie Mellon University. She worked previously as a Statistician for the Center for International Research of the U.S. Bureau of the Census. Her work at the Commission focuses on the influence of new technology and appropriateness of care on the Commission's recommendations regarding the Volume Performance Standard.

ANNETTE B. HENNESSEY is the Executive Assistant. She received her bachelor's degree in political science from Mississippi State University in Starkville. Until joining the Commission, she worked for Senator Bill Bradley as a Legislative Secretary, primarily responsible for administration of his legislative staff. As assistant to the Executive and Deputy Directors, she coordinates all ongoing Commission activities.

JOHN F. HOADLEY, Ph.D., is a Principal Policy Analyst. He received his doctorate in political science from the University of North Carolina at Chapel Hill in 1979. Before joining the Commission staff, Dr. Hoadley was a Senior Research Associate at the National Health Policy Forum, where he was responsible for Forum sessions on health insurance, access, quality of care, and physician payment, among other issues. Previously, he served as a Legislative Assistant in the office of Representative Barbara B. Kennelly, and was an American Political Science Association Congressional Fellow in 1983-84. Earlier, Dr. Hoadley taught political science at Duke University and at the State University of New York at Stony Brook. His work at the Commission focuses on issues related to health system reform, data systems, and refinement of the Medicare Fee Schedule.

CATHERINE HOFFMAN, Sc.D., M.N., is a Senior Analyst. She received a doctorate in health policy and management from the Johns Hopkins School of Hygiene and Public Health. Prior to joining the Commission, she worked as an analyst for the Kaiser Commission on the Future of Medicaid while finishing graduate study. To her health policy work Dr. Hoffman brings 14 years of clinical and nursing education experience as a cardiovascular clinical nurse specialist. Her work at the Commission focuses on access to care for Medicaid beneficiaries, nonphysician practitioner payment policies, and illness severity refinement of the Medicare Fee Schedule.

CHRISTOPHER HOGAN, Ph.D., is a Principal Policy Analyst. He holds a doctorate in economics from Northwestern University. Before joining the Commission staff he worked at the National Center for Health Services Research and served as Senior Economist with the Consolidated Consulting Group. Joining the staff in 1989, he developed the Commission's Volume Performance Standard report and its analysis of the fee schedule conversion factor. He is currently working to find ways to monitor Medicare beneficiaries' access to care under the fee schedule.

ROZ DIANE LASKER, M.D., is a Principal Policy Analyst. She received her medical degree from the University of Pittsburgh School of Medicine. Following her residency training in internal medicine, she completed a fellowship in endocrinology and metabolism at the National Institutes of Health and was a member of the faculty at the University of Vermont College of Medicine. Since joining the Commission in 1987, she has focused on policy issues related to the design and implementation of the resource-based Medicare Fee Schedule; the uses of practice pattern profiling and practice guidelines in containing costs and improving the quality of care; and roles that the federal government can play — especially in the context of health system reform — in promoting more effective, efficient, and responsive medical care.

SHERAN ESTES McMANUS is the Administrative Officer. Having received her bachelor's degree from the University of Maryland, she continued her studies at the George Washington University. She has more than 15 years of experience in program administration and management, primarily in programs dealing with health care issues. She was previously Executive Associate of the George Washington University's National Health Policy Forum and served in various capacities at the U.S. Department of Health and Human Services. At the Commission, she is responsible for all financial management and administration. She also oversees the production of all Commission publications.

KATIE MERRELL is a Senior Analyst with a background in mathematics and economics. She also spends a portion of her time as the Director of the Health Studies Initiative, Division of Biological Sciences and Pritzker School of Medicine, University of Chicago. Before joining the Commission staff, she worked at Abt Associates for five years, where she was involved in a variety of projects including the cost effectiveness of the Medicare hospice benefit and the dynamics of participation in the Special Supplemental Food Program for Women, Infants, and Children (WIC). She was also a Research Assistant at the Board of Governors of the Federal Reserve System. In addition, Ms. Merrell taught junior and senior high school mathematics and computer science and has taught algebra part-time at the University of the District of Columbia. She is currently working on physician practice expenses.

NGUYEN NGUYEN, Ph.D., is a Senior Analyst. He holds a doctorate in economics from George Mason University. Before joining the Commission staff, he was at the Office of Management and Budget, where he was responsible for the conceptual design of a health

system simulation model. Previously, he served in the Office of the Assistant Secretary for Planning and Evaluation, where his work involved hospital payment and competition issues. His work at the Commission focuses on analyzing the impact of the fee schedule on physicians.

MARY PRENTAKIS is a Junior Analyst. She will receive her master's degree in health policy from the Johns Hopkins School of Hygiene and Public Health in May. Previously, she worked for two years at the Center for Cost-Effective Care at Brigham and Women's Hospital in Boston, Massachusetts, on a clinical outcomes research study. At the Commission her work focuses on ambulatory care training options in graduate medical education and the use of the Medicare Fee Schedule by private payers and Medicaid programs.

ANNE SCHWARTZ is a Senior Analyst. She holds a master's degree and is working toward a doctorate in health policy from Johns Hopkins University. Previously, she worked as staff in the U.S. House of Representatives for the Select Committee on Children, Youth, and Families and for Representative Claudine Schneider, where her work involved health, education, and child care issues. Her work at the Commission has addressed graduate medical education and physician supply, physician payment and access to care under Medicaid, and beneficiary issues.

DAVID W. SHAPIRO, M.D., J.D., is a Senior Analyst. He also spends a portion of his time at San Francisco General Hospital, where he is a Clinical Assistant Professor of Medicine. He received his medical degree from the University of California, Los Angeles (UCLA) and his law degree from Yale. After completing a residency in primary care internal medicine at UCLA, he was a Veterans Administration/Robert Wood Johnson Clinical Scholar. At the Commission, he has been working on medical malpractice reform, practice guidelines, profiling of physicians' practice patterns, the Medicare Fee Schedule, and physician licensure and certification.

SALLY TRUDE, Ph.D., is a Senior Analyst. She received her doctorate in public policy analysis from the RAND Graduate School. Before joining the Commission staff, Dr. Trude was an Associate Policy Analyst at RAND working on physician payment issues. Her work at the Commission centers on the impact of the Medicare Fee Schedule on physicians.

COMMISSION RESPONSIBILITIES MANDATED BY CONGRESS, 1985 TO 1993

The Physician Payment Review Commission was established by Congress through the Consolidated Omnibus Budget Reconciliation Act of 1985 (P.L. 99-272). It was charged with advising and making recommendations to the Congress on methods to reform payment to physicians under the Medicare program. Recommendations are to be submitted to the Congress no later than March 1 (amended to March 31 by the Omnibus Budget Reconciliation Act of 1987 [OBRA87], P.L. 100-203) of each year.

The legislation identified eight specific areas that the Commission should address in its recommendations to the Congress, including the feasibility of reducing specialty and geographic differences in payments, increasing physician participation in the Participating Physician and Supplier Program, the feasibility of physician diagnosis-related groups, and the appropriate use of assistants-at-surgery. The legislation also required that the Commission advise and make recommendations to the Secretary of Health and Human Services (HHS) regarding the development of a resource-based relative value scale for physicians' services.

In the Technical and Miscellaneous Revenue Act of 1988 (P.L. 100-647), the Congress further specified that the Commission consider policies for moderating the rate of increase in physicians' expenditures and utilization of physicians' services.

With the passage of physician payment reform legislation in the Omnibus Budget Reconciliation Act of 1989, the Commission was assigned the following new responsibilities: advising the Congress on setting standards for expenditure growth and updating fees; commenting on reports by the Secretary on issues related to utilization, access, and assignment policy; and conducting a series of mandated studies. These studies included payment for practice expenses, geographic payment areas, payment for nonphysician practitioners, physician payment under Medicaid, and payment for assistants-at-surgery. The Congress further revised the Commission's responsibilities as part of OBRA90. It repealed the requirements relating to the development of the relative value scale, while expanding the Commission's responsibilities in other areas. Under OBRA90, the Commission is required to consider policies under Medicare including:

- major issues in implementation of the Medicare Fee Schedule;
- further development of the Volume Performance Standard system, including development of state-based programs;

- payment incentives to increase access to primary care and other services in inner-city and rural areas, including federal policies regarding the level of Medicaid payments to physicians;
- the supply and specialty distribution of physicians and financing of graduate medical education;
- utilization review and quality of care, including the effectiveness of peer review organizations and other quality assurance programs;
- options to constrain the costs of health care to employers, including incentives under Medicare;
- medical malpractice reforms; and
- physician licensing and certification.

The Commission is also required to comment on the President's budget recommendations affecting physician payment under Medicare.

COMMISSION PUBLICATIONS

Annual Reports to Congress (Executive Summaries available separately)

1987 through 1993

Other Reports to Congress

The Costs of Providing Screening Mammography, No. 89-2 (June 1989)

Medicare Volume Performance Standard: Rate of Increase for Fiscal Year 1991, No. 90-1
(May 15, 1990)

Fee Update and Medicare Volume Performance Standards for 1992, No. 91-3 (May 1991)

Physician Payment Under Medicaid, No. 91-4 (July 1991)

Monitoring Access, No. 91-5 (July 1991)

Practice Expenses Under the Medicare Fee Schedule: A Resource-Based Approach, No. 92-1
(April 1992)

Monitoring the Financial Liability of Medicare Beneficiaries, No. 92-3 (May 1992)

Fee Update and Medicare Volume Performance Standards for 1993, No. 92-4 (June 1992)

Monitoring Access of Medicare Beneficiaries, No. 92-5 (June 1992)

Comments on the President's Budget for Fiscal Year 1993, No. 92-6 (June 1992)

Professional Liability Insurance Expenses Under the Medicare Fee Schedule: A Resource-Based Approach, No. 92-7 (December 1992)

Background Papers

Assignment and the Participation Physician Program: An Analysis of Beneficiary Awareness, Understanding, and Experience, No. 89-1 (September 1989)

Variation in Medicare Global Policies: Relationship to Current Payment and Implications for a Fee Schedule, No. 89-2 (November 1989)

Financial Incentives and Medical Practice: Evidence from Ontario on the Effect of Changes in Physician Fees on Medical Care Utilization, No. 89-3 (December 1989)

Medicare's Share in U.S. Physicians' Revenues, No. 89-4 (December 1989)

Survey of Visits and Consultations, No. 91-1 (April 1991)

Pre- and Postoperative Visits Associated with Surgical Global Services, No. 91-2 (August 1991)

Comments on the Notice of Proposed Rulemaking, No. 91-6 (August 1991)

The Role of Specialty Societies and Physicians in the Commission's Evaluation of Relative Work Values, No. 91-7 (November 1991)

Optional Payment Rates for Physicians: An Analysis of Section 402 of H.R.3626 (March 1992)

Background Papers Presented at the Commission's Conference on Profiling, No. 92-2 (April 1992)

These documents are available through the Commission office. For ordering information, write to the Commission at **2120 L Street NW, Suite 510, Washington, DC 20037** or call **202/653-7220**. Please allow two to four weeks for delivery.

ACRONYMS

AAMC	Association of American Medical Colleges
AANA	American Association of Nurse Anesthetists
AAPCC	Average Adjusted Per Capita Cost
AARP	American Association of Retired Persons
ABMS	American Board of Medical Specialties
ACE	Accelerated-Compensation Event
ACGME	Accreditation Council on Graduate Medical Education
AFDC	Aid to Families with Dependent Children
AHA	American Hospital Association
AHCPR	Agency for Health Care Policy and Research, HHS
AHPB	Adjusted Historical Payment Basis
AIDS	Acquired Immune Deficiency Syndrome
AMA	American Medical Association
AMCRA	American Managed Care and Review Association
ARF	Area Resource File
ASA	American Society of Anesthesiologists
BCBS	Blue Cross Blue Shield
BDMS	Bureau of Data Management and Strategy, HCFA, HHS
BHP_r	Bureau of Health Professions, HRSA, HHS
BMAD	Part B Medicare Annual Data Files
CABG	Coronary Artery Bypass Graft
CalPERS	California Public Employees' Retirement System
CBO	Congressional Budget Office
CBS	Current Beneficiary Survey
CHER	Center for Health Economics Research
CHMIS	Community Health Management Information System
CHPS	Center for Health Policy Studies
CNM	Certified Nurse-Midwife
CNS	Clinical Nurse Specialist
COGME	Council on Graduate Medical Education, HHS
CPR	Customary, Prevailing, and Reasonable
CPS	Current Population Survey
CPT	Current Procedural Terminology
CRNA	Certified Registered Nurse Anesthetist
CRS	Congressional Research Service

DO	Doctor of Osteopathy
DRG	Diagnosis-Related Group
EEG	Electroencephalogram
EKG	Electrocardiogram
EM	Evaluation and Management
EOMB	Explanation of Medicare Benefits Form
EQRO	External Quality Review Organization
FEHBP	Federal Employees Health Benefits Program
FTE	Full-Time Equivalent
FY	Fiscal Year
GAF	Geographic Adjustment Factor
GAO	U.S. General Accounting Office
GDP	Gross Domestic Product
GHAA	Group Health Association of America
GME	Graduate Medical Education
GPCI	Geographic Practice Cost Index
HCFA	Health Care Financing Administration, HHS
HCPCS	HCFA Common Procedure Coding System
HCQIS	Health Care Quality Improvement System
HEDIS	HMO Employer Data and Information Set
HHS	U.S. Department of Health and Human Services
HIAA	Health Insurance Association of America
HIO	Health Insuring Organization
HIPC	Health Insurance Purchasing Cooperative
HMO	Health Maintenance Organization
HPSA	Health Professional Shortage Area
HRSA	Health Resources and Services Administration, HHS
HSQB	Health Standards and Quality Bureau, HCFA, HHS
ICD-9-CM	International Classification of Diseases, Ninth Revision, Clinical Modification
IME	Indirect Medical Education
IMG	International Medical Graduate
IOM	Institute of Medicine
IPA	Independent Practice Association
MAAC	Maximum Allowable Actual Charge
MEI	Medicare Economic Index
MMIS	Medicaid Management Information System
MOS	Medical Outcomes Study
MSA	Metropolitan Statistical Area
MSIS	Medicaid Statistical Information System
NAHDO	National Association of Health Data Organizations
NAHMOR	National Association of Health Maintenance Organization Regulators

NAMCS	National Ambulatory Medical Care Survey
NCH	National Claims History
NCHS	National Center for Health Statistics, HHS
NCQA	National Committee for Quality Assurance
NHA	National Health Accounts
NHCS	National Health Care Survey
NHIS	National Health Interview Survey
NHSC	National Health Service Corps
NIH	National Institutes of Health
NMCUES	National Medical Care Utilization and Expenditure Survey
NMES	National Medical Expenditure Survey
NMIHS	National Maternal and Infant Health Survey
NP	Nurse Practitioner
NPP	Nonphysician Practitioner
NPRM	Notice of Proposed Rulemaking
OACT	Office of the Actuary, HCFA, HHS
OIG	Office of the Inspector General, HHS
OPD	Outpatient Department
OPM	Office of Personnel Management
OTA	Office of Technology Assessment, U.S. Congress
PA	Physician Assistant
PAR	Participating Physician and Supplier Program
PHP	Prepaid Health Plan
PHS	U.S. Public Health Service, HHS
PLI	Professional Liability Insurance
PPCIS	Physician Practice Cost and Income Survey
PPO	Preferred Provider Organization
PPRC	Physician Payment Review Commission
PPS	Prospective Payment System
PRO	Peer Review Organization
ProPAC	Prospective Payment Assessment Commission
PSU	Primary Sampling Unit
QA	Quality Assurance
QAP	Quality Assurance Program
QMB	Qualified Medicare Beneficiary
RBRVS	Resource-Based Relative Value Scale
RHCSA	Rural Health Clinic Services Act of 1977
RRC	Residency Review Committee
RUC	RVS Update Committee
RV	Relative Value
RVS	Relative Value Scale
RVU	Relative Value Unit
RWV	Relative Work Value

SIPP	Survey of Income and Program Participation
SSI	Supplemental Security Income
TURP	Trans-Urethral Resection of the Prostate
UCDS	Uniform Clinical Data Set
UCR	Usual, Customary, and Reasonable
UPIN	Unique Provider Identification Number
URVG	Uniform Relative Value Guide
VPS	Volume Performance Standard
WEDI	Workgroup on Electronic Data Interchange

LEGISLATION (Listed Chronologically)

HMO Act	Health Maintenance Organization Act of 1973, P.L. 93-222, enacted December 29, 1973.
OBRA80	Omnibus Budget Reconciliation Act of 1980, P.L. 96-499, enacted December 5, 1980.
TEFRA	Tax Equity and Fiscal Responsibility Act of 1982, P.L. 97-248, enacted September 3, 1982.
DEFRA	Deficit Reduction Act of 1984, P.L. 98-369, enacted July 18, 1984.
COBRA	Consolidated Omnibus Budget Reconciliation Act of 1985, P.L. 99-272, enacted April 7, 1986.
OBRA86	Omnibus Budget Reconciliation Act of 1986, P.L. 99-509, enacted October 21, 1986.
OBRA87	Omnibus Budget Reconciliation Act of 1987, P.L. 100-203, enacted December 21, 1987.
MCCA	Medicare Catastrophic Coverage Act of 1988, P.L. 100-360, enacted July 1, 1988, repealed December 13, 1989.
OBRA89	Omnibus Budget Reconciliation Act of 1989, P.L. 101-239, enacted December 19, 1989.
OBRA90	Omnibus Budget Reconciliation Act of 1990, P.L. 101-508, enacted November 3, 1990.

TERMS

Accelerated-Compensation Event (ACE): A class of medically caused injuries determined by experts to be normally avoidable if patients are given good care. Proposed as an alternative standard of liability for medical malpractice. A patient would receive compensation if an ACE occurred, without determining whether fault or negligence was involved in that particular case.

Access: The ability to obtain needed medical care.

Adjusted Average Per Capita Cost (AAPCC): An estimate of the average per capita cost incurred by Medicare per beneficiary in the fee-for-service system, adjusted by county for differences in age, sex, disability status, Medicaid eligibility, and institutional status.

Adjusted Historical Payment Basis (AHPB): The average payment for a service in a locality in 1991.

Adjuster: Alters relative values to calibrate payment more accurately to a defined population, such as Medicare beneficiaries.

Aging (Data): The process of estimating frequencies and payment rates by applying changes in law and regulations to data from an earlier year.

Approved Charge: The amount Medicare pays a physician based on the Medicare Fee Schedule or its transition rules. Physicians may bill beneficiaries for an additional amount, subject to the limiting charge.

Assignment (Medicare): A beneficiary's directive to Medicare to pay benefits directly to the physician or supplier. Medicare will do this only if the physician accepts Medicare's allowed charge as payment in full (guarantees not to balance bill). See Balance Bill, Nonparticipating Physician, Participating Physician, and Supplier Program.

Assistant-at-Surgery: An individual who has the necessary qualifications to participate in a particular operation and actively assists in performing the surgery. Medicare will pay for the service only when performed by a physician or a physician assistant.

Balance Bill: A physician's charge exceeding Medicare's approved charge.

Baseline Adjustment: Dollars removed from projected 1991 spending to account for expected 1992 behavioral offset and other technical factors; used in setting the conversion factor for the Medicare Fee Schedule.

Behavioral Offset: See Volume Offset.

Beneficiary: A person eligible for benefits under an insurance plan. Under Part B of Medicare, Americans over 65, many disabled individuals, and certain individuals with end-stage renal disease can become beneficiaries by paying a monthly premium.

Bundling: The use of a single payment for a group of related services. For an example of bundling, see Global Surgery Policy.

Capitation: A health insurance payment mechanism in which a fixed amount is paid per person to cover services over a period of time; a fixed, per capita payment.

Carrier (Medicare): A private contractor that administers claims processing and payment for Part B services. See Part B (Medicare).

Coding: A mechanism for identifying and defining physicians' services.

Coinsurance: The percentage of the balance of covered medical expenses that a beneficiary must pay after payment of the deductible. Under Medicare Part B, the beneficiary pays coinsurance of 20 percent of allowed charges. See Copayment, Deductible.

Concurrent Care: A circumstance in which nonconsultative services are rendered by more than one physician during a given period of time.

Conversion Factor: The multiplicative factor applied to the relative value scale to produce a schedule of dollar amounts of payment for physicians.

Copayment: The sum of coinsurance and deductibles. Alternatively, a fixed dollar amount per service that is the responsibility of the beneficiary. See Coinsurance, Deductible.

Cost Sharing: The portion of payment for health expenses that the beneficiary must pay, including copayments (deductibles and coinsurance) and balance bills. See Balance Bill, Coinsurance, Copayment, Deductible.

Cost Shifting: A situation in which a health care provider compensates for the effect of decreased revenue from one payer by increasing charges to another payer.

Crosswalk: The assumed relationship between discontinued CPT codes and those new codes that replace them.

Current Procedural Terminology (CPT): The coding system for physicians' services developed by the American Medical Association; basis of the HCPCS coding system for physicians' services. See Coding, HCFA Common Procedures Coding System.

Customary Charge: One of the screens previously used to determine a physician's payment for a service under Medicare's customary, prevailing, and reasonable payment system. Customary charges were calculated as the physician's median charge for a given service over a prior 12-month period. See Customary, Prevailing, and Reasonable.

Customary, Prevailing, and Reasonable (CPR): The method of paying physicians under Medicare from 1965 until implementation of the Medicare Fee Schedule in January 1992. Payment for a service was limited to the lowest of (1) the physician's billed charge for the service, (2) the physician's customary charge for the service, or (3) the prevailing charge for that service in the community. Similar to the usual, customary, and reasonable system used by private insurers. See Customary Charge, Medicare Fee Schedule, Prevailing Charge.

Deductible: A specified amount of covered medical expenses that a beneficiary must pay before receiving benefits. In 1993, Medicare Part B has an annual deductible of \$100.

Diagnosis-Related Groups (DRGs): A system of classifying patients on the basis of diagnoses for purposes of payment to hospitals. See Prospective Payment System.

Direct Costs: The labor, supply, and equipment costs directly attributable to the provision of a specific service. See Indirect Costs.

Dual Eligible: A Medicare beneficiary who also receives the full range of Medicaid benefits offered in his or her state.

Evaluation and Management Service: A nontechnical service provided by most physicians for the purpose of diagnosing and treating diseases and counseling and evaluating patients.

Expenditure Limit: A maximum level of spending for the health sector as a whole or for a particular category of services; normally set by the government to be achieved through rate setting or regulation of premiums. See Rate Setting.

Experience Rating (Professional Liability Insurance): A system used by liability insurance carriers to set premium levels based on the insured's past liability experience.

Federally Qualified HMO: An HMO that has satisfied certain federal qualifications pertaining to organizational structure, provider contracts, health service delivery information, utilization review/quality assurance, grievance procedures, financial status, and marketing information.

Fee for Service: A system of paying physicians for individual medical services rendered, as opposed to paying them by salary or capitation. The CPR payment system and the Medicare Fee Schedule are examples of fee for service.

Fee Schedule: A list of predetermined payments for units of medical service. See Medicare Fee Schedule.

Fee Schedule Payment Areas: A geographic area within which payment for a given service under the Medicare Fee Schedule will be equal. Most payment areas are analogous to payment localities under the previous CPR system. See Geographic Adjustment Factor.

Gaming: Gaining advantage by using improper means to evade the letter or intent of a rule or system.

Geographic Adjustment Factor (GAF): The adjuster applied to a service's fee in the Medicare Fee Schedule to determine the correct payment in each fee schedule payment area. As defined in OBRA89, the geographic adjustment factor for a service is created by combining three separate adjustment factors, one for each component of the Medicare Fee Schedule: physician work, practice expense, and malpractice expense. The adjustment factors for physician work, practice expense, and malpractice expense are based on the same measures that underlie the GPCI. See Fee Schedule Payment Areas, Geographic Practice Cost Index, Medicare Fee Schedule.

Geographic Practice Cost Index (GPCI): An index summarizing the prices of inputs to physicians' services in an area relative to national average prices. The GPCI, originally defined by the Urban Institute and the Center for Health Economics Research, is based on three components that reflect the opportunity cost of physician work, the cost of goods and services that comprise practice expenses, and malpractice expenses. The GPCI is a single measure that combines these three components as fixed shares, whereas the GAF of the Medicare Fee Schedule allows each service to reflect different shares, creating a GAF for each service. See Geographic Adjustment Factor.

Global Service: A package of clinically related services treated as a unit for purposes of billing, coding, or payment.

Global Surgery Policy: The payment policy in the Medicare Fee Schedule stating that the global surgical fee includes not only the procedure itself but also all related services and visits that occur within a designated time period. Separate payment is permitted for the initial evaluation, services for unrelated problems, and return trips to the operating room for complications. See Surgical Global Service.

Graduate Medical Education: The period of medical training that follows graduation from medical school; commonly referred to as residency, internship, and fellowship training.

Group-Model HMO: An HMO that pays a medical group a negotiated, per capita rate, which the group distributes among its physicians, usually on a salaried arrangement. See Health Maintenance Organization, Independent Practice Association, Staff-Model HMO.

HCFA Common Procedure Coding System (HCPCS): A coding system based on CPT, but supplemented with additional codes; required for coding by Medicare carriers. See Coding, Current Procedural Terminology.

Health Insurance Purchasing Cooperative (HIPC): A local board created under managed competition to enroll individuals, collect and distribute premiums, and enforce the rules that manage the competition.

Health Maintenance Organization (HMO): A prepaid, organized health care plan. Individuals are enrolled in the plan, and services are provided through a system of affiliated providers. Comprehensive benefits are financed by prepaid premiums with limited copayments. See Group-Model HMO, Independent Practice Association, Staff-Model HMO.

Health Professional Shortage Area (HPSA): An urban or rural geographic area, a population group, or a medical facility that is determined by the Secretary of Health and Human Services to have a shortage of health professionals. HPSAs are eligible for National Health Service Corps personnel, and physicians who provide services in HPSAs qualify for the Medicare bonus payment. Replaces Health Manpower Shortage Area.

Independent Practice Association (IPA): An HMO that contracts with individual physicians to provide services to HMO members at a negotiated per capita or fee-for-service rate. Physicians maintain their own offices and can contract with other HMOs and see other fee-for-service patients. See Group-Model HMO, Health Maintenance Organization, Staff-Model HMO.

Indirect Costs: Those costs that cannot be easily traced to particular services, but which must be assigned using explicit accounting methods. Sometimes referred to as common or overhead costs. See Direct Costs.

International Medical Graduate (IMG): A graduate of a medical school outside of the United States or Canada; previously referred to as a foreign medical graduate.

Limiting Charge: The maximum amount that a nonparticipating physician is permitted to charge for a service; a limit on balance billing. Starting in 1993 the limiting charge is a flat percentage of the Medicare Fee Schedule amount, paid to nonparticipating physicians. See Balance Bill.

Locality (Medicare): See Fee Schedule Payment Area.

Malpractice Expense: The cost of professional liability insurance incurred by physicians. A component of the Medicare relative value scale.

Managed Care: Any system of delivering health services where the plan receives a capitated payment for providing all medically necessary care to its enrolled members. It often involves a defined delivery system of providers with some form of contractual arrangement with the plan. See Health Maintenance Organization, Independent Practice Association, Preferred Provider Organization.

Managed Competition: An approach to health system reform where health plans compete to serve the needs of enrollees. Under a typical proposal, enrollees would sign up with a HIPC and be provided a choice of plans during an open season. See Health Insurance Purchasing Cooperative.

Maximum Allowable Actual Charge (MAAC): Transitional limits, specified by OBRA86 and based on actual charges in 1984, on what nonparticipating physicians could charge Medicare patients. MAACs have been discontinued in 1993.

Medicaid: A program of federal matching grants to the states to provide health insurance for categories of the poor and medically indigent. States determine eligibility, payments, and benefits consistent with federal standards.

Medicare Adjuster: A proposed adjustment to a service's relative work value to reflect accurately the difference in work involved in treating elderly patients.

Medicare Economic Index (MEI): An index that tracks changes over time in physician practice costs and general earnings levels. From 1975 through 1991, increases in prevailing charge screens were limited to increases in the MEI. See Prevailing Charge.

Medicare Fee Schedule: The resource-based fee schedule currently used by Medicare to pay for physicians' services.

Medigap Insurance: Private health insurance policies designed to supplement Medicare coverage. Benefits may include payment of Medicare deductibles, coinsurance, and balance bills, and payment for services not covered by Medicare.

Modifier: An additional coding element that permits payment to differ for a subset of services billed under a code.

National Claims History (NCH) System: A HCFA data reporting system that combines both Part A and Part B claims in a common file. The NCH system became fully operational in 1991.

Nonparticipating Physician: A physician who does not sign a participation agreement and, therefore, is not obligated to accept assignment on all Medicare claims. See Participating Physician, Participating Physician and Supplier Program.

Nonphysician Practitioner (NPP): A health care provider, such as a physician assistant, clinical psychologist, certified nurse-midwife, clinical social worker, certified registered nurse anesthetist, and nurse practitioner, whose services can be billed under the Medicare program on a fee-for-service basis.

Outcome: The consequence of a medical intervention on a patient.

Outcomes and Effectiveness Research: Medical or health services research that attempts to identify the clinical outcomes (including mortality, morbidity, and functional status) of the delivery of health care.

Overvalued Procedure: A procedure for which the payment rate was reduced in legislation because it was identified by the Congress as overvalued under the previous Medicare payment system.

Paid Amount: The portion of a submitted charge that is actually paid, by both third-party payers and the insured, including copayments and balance bills. See Submitted Charge.

Part A (Medicare): The Hospital Insurance program that covers the cost of hospital and related post-hospital services. Eligibility is normally based on prior payment of payroll taxes. Beneficiaries are responsible for an initial deductible per spell of illness and copayments for some services.

Part B (Medicare): The Supplementary Medical Insurance program that covers the costs of physicians' services, outpatient laboratory and X-ray tests, durable medical equipment, outpatient hospital care, and certain other services. Part B requires payment of a monthly premium, which covers roughly 25 percent of program costs. Beneficiaries are responsible for a deductible and coinsurance payment for most covered services. See Beneficiary.

Participating Physician: A physician who signs a participation agreement, agreeing to accept assignment on all Medicare claims for one year.

Participating Physician and Supplier Program (PAR): A program that provides financial and administrative incentives for physicians and suppliers to agree in advance to accept assignment on all Medicare claims for a one-year period.

Peer Review Organization (PRO): An organization contracting with HCFA to review the medical necessity and the quality of care provided to Medicare beneficiaries; formally called Utilization and Quality Control Peer Review Organization.

Performance Measure: A specific measure of how well a health plan does in providing health services to its enrolled population. Can be used as a measure of quality. Examples include percentage of diabetics receiving annual referrals for eye care, mammography rate, or percentage of enrollees indicating satisfaction with care.

Periodic Review: The recalibration of the relative values scale to account for changes that occur over time. HCFA is required to conduct periodic review at least every five years.

Physician Work: A measure of the time, physical effort and skill, mental effort and judgment, and stress from iatrogenic risk.

Point-of-Service Plan: A hybrid model that combines features of both prepaid and indemnity insurance. Enrollees decide whether to use network or non-network providers at the time care is needed but are usually charged sizable copayments for selecting the latter. Variants include open-ended HMOs and triple-option plans. See Health Maintenance Organization, Preferred Provider Organization.

Practice Expense: The cost of nonphysician resources incurred by the physician to provide physician services. Examples are salaries and fringe benefits received by nurses, physician assistants, and receptionists who are employed by the physician; and the expenses associated with purchase and use of medical equipment and supplies in the physician's office.

Practice Guideline: An explicit statement of what is known and believed about the benefits, risks, and costs of particular courses of medical action intended to achieve a meaningful difference in patient outcomes.

Preferred Provider Organization (PPO): A financing arrangement in which networks or panels of providers agree to furnish services and be paid on a negotiated fee schedule. Enrollees are offered a financial incentive to use doctors on the preferred list. See Health Maintenance Organization.

Premium: An amount paid periodically to purchase medical insurance benefits; for Medicare Part B services in 1993, beneficiaries pay a premium of \$36.60 per month.

Prevailing Charge: One of the screens that determines a physician's payment for a service under the Medicare CPR payment system. In Medicare, it is the 75th percentile of customary charges, with annual updates limited by the MEI. See Customary Charge; Customary, Prevailing, and Reasonable; Medicare Fee Schedule.

Professional Component: The part of a relative value or fee that represents the cost of a physician's interpretation of a diagnostic test or treatment planning for a therapeutic procedure. See Technical Component.

Professional Liability Insurance (PLI): The insurance physicians purchase to help protect themselves from the financial risks associated with malpractice claims.

Profiling: Expressing a provider's pattern of practice as a rate — some measure of utilization (costs or services) or outcome (functional status, morbidity, or mortality) aggregated over time for a defined population of patients under the provider's care — to compare with other practice patterns.

Prospective Payment System (PPS): The Medicare system used to pay hospitals for inpatient hospital services; based on the DRG classification system. See Diagnosis-Related Groups.

Rate Setting: An approach to health system reform whereby the government establishes payment rates for all payers for various categories of health services. By setting rates lower than would have resulted under the current system, costs should be contained.

Refinement: The correction of relative values that were incorrect at the inception of the Medicare Fee Schedule in 1992.

Relative Value (RV): A value that reflects a comparison to an arbitrary standard.

Relative Value Scale (RVS): An index that assigns weights to each medical service; the weights represent the relative amount to be paid for each service. The RVS used in the development of the Medicare Fee Schedule consists of three cost components: physician work, practice expense, and malpractice expense. See Malpractice Expense, Medicare Fee Schedule, Physician Work, Practice Expense.

Relative Work Value (RWV): An assigned value that reflects the average work of a physician of average efficiency relative to an arbitrary standard. See Relative Value Scale.

Resource-Based Relative Value Scale (RBRVS): A relative value scale that is based on the resources involved in providing a service. See Relative Value Scale.

Revenue Share: The proportion of a practice's total revenue devoted to a particular type of expense. For example, the practice expense revenue share is that proportion of revenue used to pay for practice expense.

Risk Adjuster: The use of risk measures to adjust the premium paid on behalf of a group of enrollees in order to compensate for expenses that are expected to be lower or higher than average, based on the risk status of the enrollees.

Risk Measure: Measure of the expected per capita costs of efficiently provided health care services to a defined group for a specific future period.

Sentinel Event: An adverse health event that could have been avoided through appropriate care. An example would be hospitalization for uncontrolled hypertension that might have been avoided.

Severity Modifier: An adjustment that reflects the effect of patient factors, such as severity of illness, comorbidity, risk of complications, and body site, on the relative work required to deliver a service.

Site-of-Service Differential: The difference in the amount paid when the same service is performed in different practice settings.

Specialty Differential: The difference in the relative value or amount paid for the same service when performed by physicians in different specialties.

Staff-Model HMO: An HMO in which physicians practice solely as employees of the HMO and are paid a salary. See Group-Model HMO, Health Maintenance Organization.

Submitted Charge: The actual charge submitted to the patient or a payer. See Paid Amounts.

Supplementary Medical Insurance Program: See Part B (Medicare).

Supplier: A provider of health care services, other than a practitioner, that is permitted to bill under Medicare Part B. Suppliers include independent laboratories, durable medical equipment providers, ambulance services, orthotists, prosthetists, and portable X-ray providers.

Surgical Global Service: A package of services that are clinically related to a particular surgical procedure. See Global Surgery Policy.

Technical Component: The part of a relative value or fee for a diagnostic test or therapeutic procedure that represents the costs of performing the service excluding the physician's interpretation or treatment planning. See Professional Component.

Undergraduate Medical Education: The medical training provided to students in medical school.

Upcode: To bill for a service that is paid more than the fee for the service actually provided.

Unique Provider Identification Number (UPIN): A unique number assigned to each physician billing the Medicare program.

Update for New Codes: Yearly process of determining the relative values of new and revised codes.

Usual, Customary, and Reasonable (UCR): A method of establishing payment used by private insurers that is comparable to Medicare's customary, prevailing, and reasonable. See Customary, Prevailing, and Reasonable.

Utilization Review (UR): The review of services delivered by a health care provider or supplier to determine whether those services were medically necessary.

Volume (Behavioral) Offset: The change in the quantity and intensity of services that is projected to occur in response to a change in fees. A 50 percent volume offset means that half of the savings from fee reductions will be offset by an increased volume of services.

Volume Performance Standard (VPS): A mechanism included in OBRA89 to adjust fee updates based on how annual increases in actual expenditures compare to previously determined performance standard rates of increase.

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